

AMERICAN ARTISAN and Hardware Record

Vol. 80. No. 16.

620 SOUTH MICHIGAN AVENUE, CHICAGO, OCTOBER 16, 1920.

\$2.00 Per Year.

Why most dealers sell the Nickel Plate Line



BLACK JACK STOVE POLISH PASTE leads all others in quality and satisfaction. It gives an unusually jet black polish, makes no dust and leaves no unpleasant odor. Housewives appreciate these features, and that means repeat sales for you.

PEERLESS GLOSS BLACK ENAMEL is a good seller right now for use on stove pipes, registers, grates, gas stove bodies and iron work of all kinds. It gives a brilliant deep black finish that never wears off.



PEERLESS ALUMINUM ENAMEL is unexcelled for use on any surface where a bright enamel finish with frosted effect is desired. It is moisture proof and prevents rust and decay. A good seller all year round.

RUSSIAN ASBESTOS FURNACE CEMENT is widely used by warm air heater installers. Used for mounting and packing joints and seams in Furnaces, Ranges and Stoves. It is made of asbestos materials and is fire and acid proof. Try a can on your next job.



HAND WITCH is that lightning, antiseptic dirt remover that takes off grease, grime and dirt easier than any other cleaner or soap. You can use and sell HAND WITCH. Try some and see for yourself how soft, smooth and clean it leaves your hands.

Write today for our complete catalog and price list. Start now to sell the line most dealers sell.

NICKEL PLATE STOVE POLISH COMPANY

358 East Illinois Street

::

Chicago, Illinois

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ALPHABETICAL INDEX AND CLASSIFIED LIST OF ADVERTISERS, Pages 46 and 47



QUICK MEAL

Blue, Black or White
Porcelain Enameled
Coal Ranges

are the most up-to-date
ranges made.

They will last a lifetime.

Place your orders now.

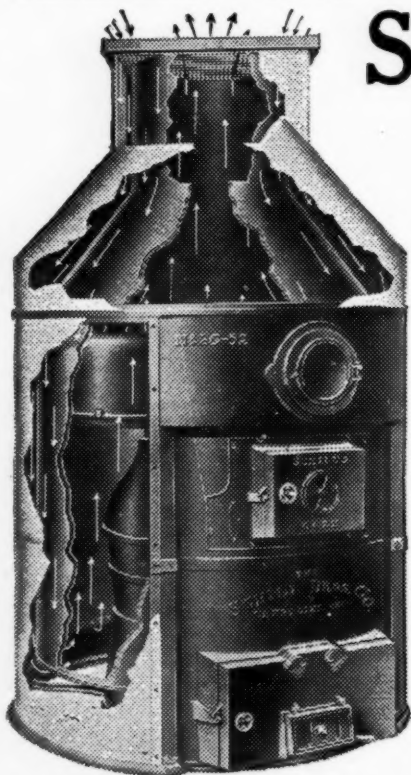
Quick Meal Stove Co.

Division of American Stove Co.

825 Chouteau Avenue

St. Louis, Mo.

DEALERS—Write today for details on



SCHILL'S PIPELESS Warm Air Heater

This new idea is really an evolution in heating. Everywhere the popularity of the Pipeless Heater is increasing. You should not fail to get your share of this profitable business. Also you should not fail to handle a **good** Pipeless Heater. **SCHILL'S PIPELESS Warm Air Heater** is of the very best quality. It will burn hard and soft coal or wood. It is just the heater for moderate size homes, bungalows, churches, stores and other buildings. This heater is **guaranteed** so that you can assure your customers of complete satisfaction. Many testimonials from satisfied users testify to its true merit.

Write now for full particulars.

THE SCHILL BROTHERS COMPANY
CRESTLINE, OHIO

FOUNDED 1880
BY
DANIEL STERN
Thoroughly Covers
The Hardware, Stove,
Sheet Metal, and Warm
Air Heating and Venti-
lating Interests

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The Federal Trade Commission has recently held a hearing on the matter of price guarantees, at which representatives of manufacturers, wholesalers and retailers argued for and against the guarantee.

Guarantee Against Price Decline

Because of the divergent views of those attending the conference no attempt was made to put the meeting on record by the adoption of resolutions. The conference was held to give the Federal Trade Commission information to guide it in acting on various complaints made against different companies in which objection has been taken to the use of the guarantee against price decline on the ground that it is an unfair method of competition.

From the remarks made at the hearing, it would appear, however, that the advocates of the guarantee against price reductions had the better of the argument, and the probability is that the commission will not issue a ruling against the practice, although it may prescribe certain limitations on time and quantities.

As one of the representatives of the manufacturers expressed it, "our attitude toward the price guarantee against decline is that we protest against the passing of any law that would take away the right to guarantee our prices against decline. We would also protest against any law that would compel us to guarantee our prices against decline.

"Many buyers requested us to guarantee our prices against decline for a given period, so that they would be in a position to trade without feeling that before receiving merchandise there would be further decline in the prices of our goods without protection.

"One of our strongest arguments for this policy was, if the market price declined and we were not guaranteeing prices, we would

have to reduce our prices, but should we guarantee our prices and the market declined, we would rebate which would amount to the same thing.

"About August 1 we adopted this policy, and since that time our sales have increased to such proportion as would permit employment of our operators on full time, thereby preserving our organization.

"I do not believe we have done any harm to our competitors in adopting this policy. However, this is an emergency measure with us, adopted to meet a definite need and serve a useful purpose."

A wholesaler summed his position up in this manner:

"The hazard of price decline must be carried by some branch of the trade, and it should be borne by the party best able to bear it. The manufacturer is best able to stand it. He is closest to the primary markets and is best posted on conditions at all times. The price guarantee stimulates business."

Generally speaking the practice of guaranteeing price has a standing of many years behind it, and there is little likelihood that a ruling or a law will be passed prohibiting those who follow the practice from continuing to do so.

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So many hardware specialties have been appropriated by the druggist that it is merely an act of partial compensation

Hardware Druggist

to suggest that the hardware dealer add to his stock in trade a chemical largely in use by sheet metal workers. Many tinsmiths go to the compounder of pills and dispenser of castor oil for their sal ammoniac. Often they have to travel out of their way to get the supplies at the drug store.

A better form of sal ammoniac is now being marketed in block form. It has many ad-

vantages over the ordinary sal ammoniac. It permits the worker to put his soldering iron in shape for use without the necessity of letting go the job on which he is engaged because it requires only one hand to place the soldering iron on the block of sal ammoniac.

The hardware store is the right place to sell this new form of sal ammoniac. Not only sheet metal workers but householders who have home soldering outfits are prospective customers for this handier and more economical form of sal ammoniac.

It means more profit because it is another article added to the list of things which can readily be sold in a hardware store. Profits come from volume of sales. The more things which the dealer sells the greater is his income.

The amount of bitter salt tears which will be wept by hardware merchants at the loss which druggists will suffer from the trade in sal ammoniac for soldering purposes being shifted to hardware stores will not be sufficient to moisten the end of a mosquito's nose.

A big thing to consider in connection with adding this article to hardware stock is that it enables the dealer to increase his service. In the last analysis, service is the secret of lucrative business.

♦ ♦ ♦ ♦ ♦

This is an unpleasant time for anybody who is engaged either in manufacture or in distribution. The distributor

**Contracts and
Cancellations**

wants to secure himself against loss by lower prices announced by the manufacturer after he has bought. The manufacturer desires to convert all his raw material into finished products and to dispose of all of them before the producer of the raw material makes a lower price.

While prices were advancing, it was an easy matter to adjust things. If the raw material went up, the manufacturer at once followed suit, and the mill agent, wholesaler and retailer joined in the beautiful concert of mounting prices.

Now things are different. Prices are coming down, but you and I dislike very much to take our medicine. We want to push the inevitable loss on to somebody else. If we are in the distributing class we want

the manufacturer to take the loss, by guaranteeing us against lower quotations, in the form of rebates or refunds. If we are in the manufacturing class, we call on the raw material men to stand some of the loss and on the distributors for the rest.

If we are in the group of those who take their responsibilities lightly, we simply cancel our orders and place new orders on the lower price basis, without regard to the fact that in so doing we break both the law of the land and the law of business ethics.

During this readjustment period many fine points will have to be worked out on the question of cancellations. If they can be made without injury to either party, well and good. If the buyer can reimburse the seller to the extent of the loss that might otherwise be incurred, there is a good basis for cancellation. If the seller is big enough to stand a partial loss of this kind, rather than to bankrupt his customer, thus saving him for another time, it is good business. These are times for giving and taking, for all will benefit in the long run through the adjustment now going on. There is, however, one class of buyer who is entitled to neither sympathy nor consideration, the one who, finding himself on the losing side, calmly repudiates his contracts without so much as "by your leave" and defies the seller to take whatever action he may see fit.

The probability is that humanity, being constituted as it is, the question of cancellations will run the entire gamut from the plain welsher to that fine old type of merchant who would give his last dollar to keep his given word.

♦ ♦ ♦ ♦ ♦

Know your goods. Study the manufacturers' catalogues and descriptive matter.

Learn all there is to learn about

Study the each commodity in your store.

Commodity The more thoroughly you understand the material, work-

manship, and use of every article in your stock, the more intelligently and persuasively can you describe them to your customers. The biggest obstacle to completing a sale is ignorance of the goods. The buyer loses confidence in you and your store when you answer his inquiry by saying, "I don't know." Get all the information you can about the commodities which you handle.

Random Notes and Sketches

By Sidney Arnold

The week was brightened by a visit from my old friend "Phil" D. Skelmire, Manager of the Minneapolis sales office of the Milwaukee Corrugating Company. "Phil" was in Chicago to attend the National Dairy Show which is being held this week. He didn't tell me, however, whether he was especially interested in looking the cows over or whether there was some other attraction. He says that Minneapolis is going to be the biggest distributing point for the Northwest in every line of supplies, as it is already in some of them—and "of course," he comments, "we don't have to fall back on the Stock Yards and the Lincoln Park Zoo when we want to show visitors something worth looking at, for there is no place like Hennepin County for beautiful scenery, with its hundreds of lakes and stretches of woods."

* * *

Irving Kemp, the well known Salesmanager of the Vaughan and Bushnell Manufacturing Company, Chicago, is a stockholder in one of the numerous "Gasolene Alley" garages in Oak Park, Illinois, and spends considerable of his spare time discussing the "road hogs" that infest the neighborhood near Washington Boulevard with his fellow automobilists in the Hardware Club of Chicago.

The other day he was telling about one of these pests who had dashed out of an alley without either sounding his horn or stopping to look if any one was coming along on the boulevard. The fellow put a nice accordean pleat in Irving's rear fender and our friend Kemp whose temper is ordinarily of a very even character got a little out of patience.

"Well," asked Allan J. Coleman, who presides over the destinies of the Hardware Club, "what did you say to him?"

"I called him a blankety blank idiot, but his wife was along, and I couldn't tell him what I thought of him."

* * *

Henry Stuckart, who is known all over Illinois and several other states as a prosperous hardware retailer who can find time to hold important public offices and also manage campaigns for other politicians, tells the following story as a sample of the "nerve" some dead-beats have:

"Brokesley," said Henry to the dead-beat who was planning to move out of the community, "I don't believe you will ever pay me what you owe me. It isn't worth while to sue you for it, and you have nothing I care to attach. I will simply give you a receipt and call it paid."

"Fine of you," said Brokesley.

A few moments after, seeing that Brokesley still lingered about, Stuckart said:

"Was there something you wished to speak to me about?"

"Not specially, but ain't it customary to give a feller a cigar when his account's settled?"

* * *

Court stenographers are patient folk.

Now and then, however, they lose their poise under

great provocations and enliven the dull routine of the law, as in this case told me by my friend F. E. Ederle, Grand Rapids, Michigan, Secretary Michigan Sheet Metal Contractors' Association:

The witness for the defense was being cross-examined. In answer to a question put by counsel, instead of speaking, he nodded his head.

Whereupon the court stenographer who was not looking at the witness, demanded: "Answer that question."

The witness replied, "I did answer it; I nodded my head."

"Yes," was the retort, "I heard it rattle, but could not tell whether it was up and down or from side to side."

* * *

If you are feeling gloomy about anything in particular, it will do you good to read this story sent me by my friend, J. V. Armhorst of the Chicago office Merchant and Evans Company:

Two brothers once ran a store in a small western town, where they had quite a large trade in wool on barter.

Evidently one of the brothers became converted at a revival and it was not long before he was urging the other to follow in his footsteps.

"You ought to join, Jake," said the converted one. "You don't know how helpful and comforting it is to be a member of the church."

"I know, Bill," admitted Jake thoughtfully, "an' I would like to join, but I don't see how I can."

"Why not?" persisted the first. "What is to prevent you?"

"Well, it's jes' this way, Bill," declared Jake. "There has got to be somebody in the firm to weigh this wool."

* * *

In the natural run of events there are many occasions of sadness.

For some reason not thoroughly understood, a great many folks respond more readily to the touch of tragedy than they do to the appeal of cheerfulness.

Even in the sunniest of lives there is need always of gladness.

Not, therefore, as a matter of sentiment, but rather of necessity, it would be well for all of us to take to heart the preachment of the subjoined stanzas:

Glad Songs.

Sing me a song of gladness,
Sing me no song of woe;
Life has enough of sadness,
Let all your dirges go;
Cheer me with merry laughter,
Rouse me with songs of glee,
Leave for the long hereafter
Wailing and misery.

Never a song bird swinging
Out in the apple tree
Wastes ever a moment singing
A sorrowful melody.
Always the notes are cheery,
Always his songs are glad;
Sing not your dirges dreary,
Sing me no song that's sad.

For life has enough of weeping,
And life has enough of rain,
And many a soul is keeping
A grief that's akin to pain.
So sing not a song of sorrow
That starts up our tears again,
But sing of the bright tomorrow,
And gladden the hearts of men.

Up-to-the-Minute News Siftings

*Items of Interest to Dealers Gleaned from Many Fields.
National and Local Business Plans, Problems, and Practices.*

STOVE SALES IN THE SOUTH JUMP WITH COLD SNAP.

"The southern farmer is a strange sort of person," said one of the prominent stove manufacturers in the Louisville, Kentucky, district. "One day he is exuberant in spirits and spends money as if it would last forever; the next day he pinches a quarter until you can hear the eagle scream, and all because some little thing has gone against him.

"This fall's stove business has been going by jerks and jumps, but generally speaking, the retail dealers did not feel justified in placing large orders because cotton is a bit lower and the tobacco sales were slow, so we called our men in about the middle of September.

"No sooner had they left their territories, than we were almost swamped with mail orders, many of them for whole carloads and all of them requesting rush shipment. A cold snap had brought the farmers to a realization that summer wasn't going to last forever, and so they came to town to buy stoves, but found that few could be obtained as the dealers had taken a hint from the farmers themselves and had refused to put in even regular stocks.

"And here is an interesting point. In many cases, the farmers paid cash in advance before the dealers would take their orders, so many of the stoves that we shipped to the dealers had already been paid for. Not such a bad idea!"

Procures Patent for Stove Leg and Caster.

United States patent rights, under number 1,353,784, have been granted John Peterson, North Mankato, Minnesota, for a stove leg and caster described as follows:



A device of the character described including a shank having a shoulder, a post slidable upon the shank, a caster carried by the post, the post being shiftable for projecting the caster, and a horizontally disposed locking member shiftable with the post but rotatable thereon to coact with said shoulder for locking the post against retraction.

Amendment to Trade Mark Act Helps Exporters.

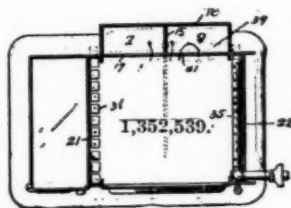
An amendment to the Federal Trade-Mark Act renders it now possible to register many trade-marks not heretofore registrable.

One reason for this amendment was to enable American owners of such heretofore non-registrable

trade-marks to secure Federal registrations, particularly for use in foreign countries as the basis for registration in such countries because of the frequently recurring cases of foreign piracy of American trade-marks. In many instances foreigners have registered American trade-marks with consequent damage to Americans when American goods bearing the marks arrive in such foreign countries.

Procures Patent for Combined Coal and Gas Stove.

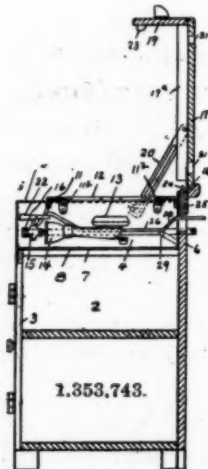
John H. Sattler, San Francisco, California, has been granted United States patent rights, under number 1,352,539, for a combined coal and gas stove described as follows:



In a combined coal and gas stove, a front oven plate, a back oven plate and a bottom oven plate inclosing an oven, a flue for the gases of combustion of the coal fire arranged below the bottom oven plate, said flue and said bottom oven plate being of less width than the oven, whereby passages are formed between the flue and the front and back oven plates, apertured plates in said oven spaced from the front and back oven plates and forming with said plates, continuations of said passages, gas burners in said passages, and means for controlling the flow of air into said passages.

Assigns United States Patent Rights for a Stove.

Under number 1,353,743, United States patent rights have been granted to George W. Graves, Cincinnati, Ohio, assignor to The Graves Supply Company, Cincinnati, Ohio, a Corporation of Ohio, for a stove described as follows:



In combination with a gas stove comprising a burner, a frame and a valve, of a cabinet in which the stove is housed comprising a hinged cover adapted to expose the top of the stove when opened and to inclose the stove when closed; a supply pipe arranged within the cabinet when closed; valves on the supply pipe; and means preventing the closing of the cover with the valves in open position.

The Week's Hardware Record

*What Retailers, Jobbers, and Manufacturers Are Doing.
Latest Selling Methods. Experiences of Successful Men.*

It is worth while to keep in mind the fact that AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western hardware and metal prices corrected weekly. You will find these prices on pages 40 to 45 inclusive.

HARDWARE MANUFACTURERS WILL HAVE SPLENDID PROGRAM.

The program for the Annual Convention of the American Hardware Manufacturers' Association, which is to be held in Atlantic City, New Jersey, October 19th to 22nd inclusive, promises some very interesting and instructive sessions.

At the first executive session, Wednesday afternoon, October 20th, Fayette R. Plumb, Philadelphia, former President of the Association, will deliver an address on "Federal Taxation," to be followed by a discussion by the members under Mr. Plumb's leadership.

There will also be an address on "Use and Abuse of Credits," by John E. Gardin, Director of the First Federal Foreign Banking Association, which is the first bank chartered under the authority of the Edge Law.

Thursday forenoon will be given over to group meetings on the various branches of industry represented in the Association.

Thursday afternoon, George Wilder Cartwright, former U. S. Senator for California, will speak on "Mutual Interests of Labor and Capital."

Samuel Untermeyer, the famous New York lawyer, will follow with an address on "Profiteers, Combinations and the Law."

The Convention entertainment will consist of a dance in the evening of October 20th; a Ladies' Card Party, Thursday afternoon, October 21st, and an "At Home," with professional entertainers, during that evening, at the Blenheim Exchange.

Instructive Addresses and Discussions Arranged for Wholesale Hardware Meet.

The Annual Convention of the National Hardware Association which will be held October 19th to 22nd inclusive, at Atlantic City, New Jersey, is to be featured by a number of exceptionally interesting addresses and discussions, among which are the following:

The Annual Address, by President Robert H. Tremen, Ithaca, New York, on Wednesday forenoon, October 20th.

"Hardware in Human Civilization," is the subject of an address by the Reverend Russell H. Conwell,

D. D., Pastor of the Baptist Temple, Philadelphia, also on Wednesday forenoon.

George Smart, Editor of *Iron Age*, will speak Thursday afternoon on "The General Iron and Steel Situation." This afternoon is given over to the Metal Branch of the Association.

He will be followed by Richard L. Austin, of the Federal Reserve Bank, Philadelphia, who will have for his subject, "The Business Outlook From the Bankers' Standpoint."

John C. Howell, of Brookwire Economic Service, Incorporated, New York, will deliver an address on "Basic Factors That Control Price Movements, With Particular Reference to Iron and Steel Products."

R. L. McHale, of David Lupton's Sons, Philadelphia, has for his subject, "The Use of Zinc for Conductor Pipe and Eaves Trough."

Friday morning's session will be devoted to discussions on the following subjects:

"The Return to Pre-War Datings," led by A. E. Mize, Atchison, Kansas.

"The Improvement of Credit Conditions," by W. B. Munroe, Philadelphia.

Files Voluntary Bankruptcy Petition.

According to the *Daily News*, Indianapolis, liabilities amounting to \$20,086.92 and assets amounting to \$14,536.50 are listed in a voluntary petition in bankruptcy filed in the Federal Court by Nay & Pavey, a hardware firm, at Tipton, Indiana.

Is Granted Patent Rights for Safety Razor.

Riley Herbert Parker, Winthrop, Massachusetts, assignor to Gillette Safety Razor Company, Boston, Massachusetts, a Corporation of Delaware, has procured United States patent rights, under number 1,353,609 for a safety razor described here-with:



In a safety razor, the combination with a guard of relatively fixed opposed jaws adapted to engage simultaneously a blade placed between them and comprising stops at the ends of the guard and an abutment crossing the plane of the blade when in operative position, and a spring operating on the blade transversely to the plane of the latter for moving it into engagement with the abutment and maintaining such engagement during use.

The nation's welfare is the people's welfare.

Biggest Delegation on Hardware Special Leaves Chicago Sunday.

Sunday forenoon at 10:25, October 17th, the greatest Hardware Special in the history of Tom Usher will leave the New York Central Depot in Chicago for the Annual Conventions of the National Hardware Association and the American Hardware Manufacturers' Association at Atlantic City, New Jersey.

The route is over the New York Central Lines to Albany, New York, where the delegates and guests will board a Hudson River steamer for a day trip down this beautiful stream, landing in New York City, 6:30 p. m. Monday. Time for arrival at Atlantic City, New Jersey, is set for 10:30 p. m. Monday.

As usual, the Special Train Committee, consisting of Thomas J. Usher, E. R. Swift and R. B. Jones, has done excellent work in making arrangements for the pleasure and comfort of the travelers during the trip.

Those who will board the train at Chicago follow:

E. H. Luetkemeyer and A. G. Hinz, The Luetkemeyer Company, Cleveland, Ohio.
 John C. Trier, C. C. Schlatter & Company, Fort Wayne, Indiana.
 H. J. Hopkins, Geller, Ward & Hasner Hardware Company, St. Louis, Missouri.
 C. J. Knapp, *Hardware Age*, Chicago.
 Frank P. Tenney, Smith & Hemenway Company, Incorporated, Irvington, New Jersey.
 Carl T. Haw, Haw Hardware Company, Ottumwa, Iowa.
 M. Goddard and N. C. Spier, Seattle Hardware Company, Seattle, Washington.
 G. M. Johnson, Wyeth Hardware & Manufacturing Company, Saint Joseph, Missouri.
 Edwin T. Nipher and Ernest N. Birge, Saint Louis Shovel Company, Saint Louis, Missouri.
 A. E. Alverson, Greenlee Brothers & Company, Rockford, Illinois.
 James Gill, The Kirk-Latty Manufacturing Company, Cleveland, Ohio.
 W. C. Stephens, P. & F. Corbin, Chicago, Illinois.
 Ray Fowble, The Nichols Wire & Sheet Company, Davenport, Iowa.
 W. R. Voorhees, Russell & Erwin Manufacturing Company, San Francisco, California.
 Frank Colladay, Frank Colladay Hardware Company, Hutchinson, Kansas.
 N. H. Oliver, Metal Specialties Manufacturing Company, Chicago, Illinois.
 John Hurty, The Frank Colladay Hardware Company, Hutchinson, Kansas.
 John A. Davis, William Rogers Manufacturing Company, Chicago, Illinois.
 E. A. Hoffman, Hoffman Hardware Company, Los Angeles, California.
 A. R. Murphy, National Enameling & Stamping Company, Kansas City, Missouri.
 James G. Geagan, Bonney Vise & Tool Works, Chicago, Illinois.
 E. R. Swift, The Stanley Works of Illinois, Chicago, Illinois.
 R. B. Jones, Clyde Cutlery Company, Clyde, Ohio.
 F. D. Ford, Eagle Lock Company, Chicago, Illinois.
 A. H. Vayo, Eclipse Manufacturing Company, Indianapolis, Indiana.
 C. S. Harper, Harper & McIntire Company, Ottumwa, Iowa.
 J. W. Yates, McGregor-Noe Hardware Company, Springfield, Missouri.
 Will J. Feddery, *Hardware Age*, Cleveland, Ohio.
 Wilbur Humphrey, Morehouse & Wells Company, Decatur, Illinois.
 J. A. Warner, Wyeth Hardware & Manufacturing Company, Saint Joseph, Missouri.
 C. M. Schneider, The Bridgeport Chain Company, Chicago, Illinois.
 E. P. Harris, The Payson Manufacturing Company, Chicago, Illinois.
 L. G. McDonald, American Wire Fabrics Company, Chicago, Illinois.
 R. W. Blanchard, Hart & Cooley Company, Chicago, Illinois.
 Fred D. Empkie, Empkie-Shugart-Hill Company, Council Bluffs, Iowa.
 W. E. Eastman, Wiebusch & Hinger, Limited, Chicago, Illinois.

George E. Larson, Larson Hardware Company, Sioux Falls, South Dakota.
 George E. Garland, Townley Metal & Hardware Company, Kansas City, Missouri.
 H. E. Warner, *Hardware Dealers Magazine*, Chicago, Illinois.
 J. F. Nelson, Prusia Hardware Company, Fort Dodge, Iowa.
 R. L. Rogers, The Payson Manufacturing Company, Chicago, Illinois.
 E. D. Adams, Drake Hardware Company, Burlington, Iowa.
 A. F. Brockman, C. S. Macginnis and C. W. Knoepfel, The Fair, Chicago, Illinois.
 A. W. Curtis, The Cleveland Stone Company, Cleveland, Ohio.
 George S. Loudon, Marvel Machinery Company, Minneapolis, Minnesota.
 J. P. McKinney, McKinney Manufacturing Company, Chicago, Illinois.
 E. P. King, The Stanley Rule & Level Company, New Britain, Connecticut.
 Malcolm Isbister, The Peck, Stow & Wilcox Company, Cleveland, Ohio.
 Louis A. Corlett, The France Manufacturing Company, Cleveland, Ohio.
 F. E. McClimans, Allith-Prouty Company, Danville, Illinois.
 Mrs. Louis A. Corlett, Cleveland, Ohio.
 R. W. Clancy and C. E. Goodrich, American Powder Mills, Chicago, Illinois.
 Mr. and Mrs. W. E. Biggers and W. D. Biggers, The Continental Company, Detroit, Michigan.
 H. H. Riner, R. A. Peterson and Herbert P. Sheets, The National Retail Hardware Association, Argos, Indiana.
 George W. Huntley, Cutler Hardware Company, Waterloo, Iowa.
 R. E. Espy, United States Wire Mat Company, Decatur, Illinois.
 Fred F. Luedke, John Pritzlaff Hardware Company, Milwaukee, Wisconsin.
 Harry Christman, Milwaukee Currugating Company, Milwaukee, Wisconsin.
 A. S. Barrows, The Lakeside Foundry Company, Chicago, Illinois.
 F. C. Peters, Horton Manufacturing Company, Fort Wayne, Indiana.
 Charles D. Clark, One Cent Letter Postage, Peoria, Illinois.
 J. J. Walworth and A. E. Spriggs, Rome Manufacturing Company, Chicago, Illinois.
 Mr. and Mrs. Leonard W. Stewart, Cincinnati, Ohio.
 C. W. Sager, Sager Lock Company, North Chicago, Illinois.
 George C. Isbester, American Chain Company, Chicago, Illinois.
 C. F. Wright, Wright Manufacturing Company, Lisbon, Ohio.
 O. J. Shields, Rock Island Manufacturing Company, Rock Island, Illinois.
 Mr. and Mrs. B. M. Moore, The Barney Moore Company, Chicago, Illinois.
 G. C. McBeth, The Lufkin Rule Company, Saginaw, Michigan.
 I. P. Glassman, Arcade Manufacturing Company, Freeport, Illinois.
 Mr. and Mrs. Frank F. Bare, The George Tritch Hardware Company, Denver, Colorado.
 D. O. Macquarrie, Corbin Cabinet Lock Company, Chicago, Illinois.
 R. A. Sundvahl, Corbin Screw Corporation, Chicago, Illinois.
 James W. Walker, Marshall Wells Company, Duluth, Minnesota.
 Edward J. Failing, Failing-McCalman Company, Portland, Oregon.
 C. E. Emery, The Otis Hidden Company, Louisville, Kentucky.
 Henry A. Taylor, American Screw Company, Chicago, Illinois.
 N. A. Gladding, E. C. Atkins & Company, Indianapolis, Indiana.
 Miss Etta Cohn, AMERICAN ARTISAN & HARDWARE RECORD, Chicago, Illinois.
 Mr. and Mrs. M. S. Burlingame, Mason Davis & Company, Chicago, Illinois.
 Mr. and Mrs. J. V. Banks, Reed & Prince Manufacturing Company, Chicago, Illinois.
 Frank J. Koch, McKinney Manufacturing Company, Chicago, Illinois.
 Charles E. Parr, The Coleman Lamp Company, Wichita, Kansas.
 J. W. McLean, Simonds Manufacturing Company, Chicago, Illinois.
 Mr. and Mrs. J. H. Gregg and Mrs. Joe Isaacs, Gregg Hardware Company, Detroit, Michigan.

F. E. Harwi, The A. J. Harwi Hardware Company, Atchison, Kansas.

T. A. Hansen, Columbian Rope Company, Chicago, Illinois.

Mr. and Mrs. W. L. Shumacher, The Toledo Wheelbarrow Company, Toledo, Ohio.

Mr. and Mrs. Edward O. Faeth, Stowe Supply Company, Kansas City, Missouri.

Mr. and Mrs. B. B. Bell, Hunt, Helm, Ferris & Company, Harvard, Illinois.

George W. Jones, Pittsburgh Steel Company, Chicago, Illinois.

P. W. Dillon and D. J. O'Connor, Northwestern Barb Wire Company, Sterling, Illinois.

Mr. and Mrs. T. J. Ray, The Peck, Stow & Wilcox Company, Cleveland, Ohio.

Oscar J. Schroeter and Bruno Schroeter, Jr., Schroeter Brothers Hardware Company, Saint Louis, Missouri.

Mr. and Mrs. George E. Hall, Hall Hardware Company, Minneapolis, Minnesota.

Mr. and Mrs. D. L. Christy, The Christy Company, Fremont, Ohio.

Mr. and Mrs. Charles Robinson, The Smith Brothers Hardware Company, Columbus, Ohio.

Frank E. Smith and Frank D. Smith, Clark, Smith Hardware Company, Peoria, Illinois.

W. H. Ellis and M. E. Bosley, The D. W. Bosley Company, Chicago, Illinois.

William A. Atkins and S. L. Webster, E. C. Atkins & Company, Indianapolis, Indiana.

W. M. Pitkin, A. Baldwin & Company, New Orleans, Louisiana.

Mr. and Mrs. L. Kuehn, Milwaukee Corrugating Company, Milwaukee, Wisconsin.

Mr. and Mrs. W. F. Kegel, Standart Brothers Hardware Company, Detroit, Michigan.

Mr. and Mrs. John A. Brown, The T. B. Rayl Company, Detroit, Michigan.

Mr. and Mrs. Charles A. Bachmann, The T. B. Rayl Company, Detroit, Michigan.

Mr. and Mrs. W. J. Dillon, Standart Brothers Hardware Company, Detroit, Michigan.

Mr. and Mrs. J. W. Barlow, Blish, Mize & Silliman Hardware Company, Atchison, Kansas.

Mr. and Mrs. C. P. Bentley, The Continental Company, Owosso, Michigan.

Mr. and Mrs. Robert H. Cowdery, American Fork & Hoe Company, Geneva, Ohio.

W. H. Klauer, Klauer Manufacturing Company, Dubuque, Iowa.

W. H. Eaton, American Sheet & Tin Plate Company, Chicago, Illinois.

C. F. Sharrocks and J. R. Ferguson, Baker, Hamilton & Pacific Company, San Francisco, California.

Mr. and Mrs. C. L. Schwartz, The Lee Hardware Company, Salina, Kansas.

Mr. and Mrs. Arthur E. Gross, Phillip Gross Hardware & Supply Company, Milwaukee, Wisconsin.

Mr. and Mrs. L. C. Warner, Warner Hardware Company, Minneapolis, Minnesota.

Mr. and Mrs. J. A. Roberts, Pittsburgh Steel Company, Chicago, Illinois.

Mr. and Mrs. T. W. Tennyson, American Saw & Manufacturing Company, Springfield, Massachusetts.

Mr. and Mrs. George H. Beaudin, J. Wiss & Sons Shear Company, Chicago, Illinois.

Mr. and Mrs. F. R. Nichols, Nichols Wire & Sheet Company, Kansas City, Missouri.

Mr. and Mrs. F. W. Martin, The Martin Metal Manufacturing Company, Wichita, Kansas.

Mr. and Mrs. L. Schricker, Rock Island Hardware Company, Rock Island, Illinois.

F. G. Wooster and Miss Irene Wooster, F. G. Wooster Sales Company, Saint Louis, Missouri.

Mr. and Mrs. W. R. Johnston, William R. Johnston Manufacturing Company, Chicago, Illinois.

Mr. and Mrs. G. E. Jennings, Wright & Wilhelmy Company, Omaha, Nebraska.

Mr. and Mrs. F. B. Hochstetler, Wright & Wilhelmy Company, Omaha, Nebraska.

Mr. and Mrs. C. J. Prentiss, Van Camp Hardware & Iron Company, Indianapolis, Indiana.

Mr. and Mrs. Irving S. Kemp, Vaughan & Bushnell Manufacturing Company, Chicago, Illinois.

Mr. and Mrs. James Surpless, Surpless, Dunn & Company, Chicago, Illinois.

Mr. and Mrs. T. J. Usher, Russell & Erwin Manufacturing Company, Chicago, Illinois.

Those who will join at Albany, New York, follow:

Mrs. Thomas J. Usher, Jr., American Steel & Wire Company, Detroit, Michigan.

A. C. McKinnie and S. McClelland, The Stanley Works, New Britain, Connecticut.

G. W. Goldsmith, Frye, Phipps Company, Boston, Massachusetts.

A. E. Dykes, J. H. Ashdown Hardware Company, Winnipeg, Manitoba.

W. A. Potter, The Potter Manufacturing Company, Geneva, Ohio.

Mr. and Mrs. Felix Van Cleef, Van Cleef Brothers, Chicago, Illinois.

Pennsylvania and Atlantic Seaboard Hardware Men to Have Splendid Exhibit.

The Twentieth Annual Convention of the Pennsylvania and Atlantic Seaboard Hardware Association will be held in the Commercial Museum, Philadelphia, February 8th to 11th, 1921, inclusive and as usual there is to be a great exhibition of hardware and kindred lines. Sharon E. Jones, Secretary of the Association, states that the floor plan has been arranged in a very unique manner, in that all the spaces for sale to exhibitors will be "corners." Requests for reservations should be addressed to 1314 Fulton Building, Pittsburgh.

Assigns United States Patent Rights for Shaving Brush.

United States patent rights, under number 1,353,984, have been granted to Marcus B. Behrman, Tompkinsville, New York, assignor to American Safety Razor Company, Brooklyn, New York, a Corporation of New York, for a shaving brush described as follows:



A brush of the character described comprising a bunch of bristles, a ferrule engaging the knot of the bunch, an outer ferrule secured thereto, and at its upper and lower edges spaced therefrom to afford annual recesses, and a hollow handle comprising longitudinal sections adapted to be opened one from the other, and at their inner ends formed with cylindrical portions adapted to enter the aforesaid annular recesses, the bunch, with its ferrules, being detachable from the

handle and said bunch being adapted to be confined within the handle or arranged to extend therefrom, said outer ferrule in both positions of the bunch serving to bind the sections of the handle in closed relation.

Increase Your Rate of Turnover.

The plan should be always to name your price. Do this consistently, putting tags and signs on every lot of goods, especially your displays, and you will have done much to offset the false impression that service costs too much.

A strong means of profit is more rapid turnover. A given article can be handled with profit for a considerable percentage less if the rate of turnover can be accelerated.

This thought deserves careful study. It is commonly said that three turns at two per cent net is better than one turn at four per cent. It is absolutely true.

Good Ideas for Window Display

Practical Lessons from Exhibits in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition. How to Get More Passers-By to Come into Your Store.

EMPHASIZES AMERICAN HARDWARE IN WINDOW DISPLAY.

Men engaged in the art or profession of window display who are really interested in their work and who have studied the fundamentals of their profession or art—both words are applicable—realize that the novelty feature of a window display forms one of the strongest points of attraction that can be obtained, and are therefore always on the lookout for ideas toward that end.

Sometimes it may be some mechanical contraption; then again special emphasis may be made of large posters furnished by manufacturers showing some par-

AND HARDWARE RECORD Window Display Competition and was awarded Honorable Mention.

Excellent use was made of large posters, show cards and cut-outs advertising War Savings Stamps.

The central feature was a reproduction of a battle cruiser, which was made of galvanized iron built around paint cans. Packages of Winchester shells were arranged on the deck. The "crow's nest" on the mast was an inverted electric globe protector of wire. The "smoke" was cotton batting with lamp black dusted through, while the water effect was produced with cotton waste. A little "submarine" will be noted sticking its conning tower out of the sea in the lower left hand corner near the pointing hand.



Made-in-America Window Exhibit Arranged by E. A. Saur, 1410 Yale Place, Minneapolis, Minnesota, Awarded Honorable Mention in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition.

ticular way in which the article in question is utilized; at another time, a special lighting effect may be utilized to good effect. Whatever the novelty feature is, passers-by are always attracted, and their attention thus drawn to the articles displayed, and the object desired is accomplished, at least in part. For to be really effective, the window display must bring customers into the store.

The unique feature of the window display shown in the accompanying illustration is that every one of the 265 items of which it was composed is made in the United States of America—all of them, hardware or some kindred line, and E. A. Saur, who arranged this very fine display for his store, 1410 Yale Place, Minneapolis, Minnesota, is to be highly complimented for the efficient manner in which he carried out the idea. The display was entered in AMERICAN ARTISAN

The smoke stacks were two lengths of ordinary stove pipe, and every detail was carried out in a very comprehensive manner.

Mr. Saur states that this window display attracted so much attention that the sidewalk was crowded with people trying to get a chance to see it, and that its effect was quite noticeable on his sales of the 265 articles of hardware shown.

Window Display Competition Fosters Great Improvement.

Twenty years ago one of the largest department stores in Chicago had no show windows. While there were large plate glasses in its windows facing on State Street, they were covered with black paint, and the only attempt toward a display of merchandise was

series of wooden steps leaning up against the building upon which were arranged cheap dress goods, house furnishing articles, shoes and various other items. A boy was stationed at each row of steps with a feather duster and a piece of cloth. With these he kept the street dirt from getting too thick on the merchandise displayed, and, incidentally, also kept watch that long-fingered passers-by did not absent-mindedly get away with a pair of shoes or a dish pan.

This particular store has changed its notion about window display and today has some of the most attractive arrangements of merchandise on State Street.

Many retail hardware stores, however, follow the same plan—or lack of plan—with regard to this particular method of attracting trade as they did twenty years ago; if they make any use at all of their windows for display purposes the items are placed in the window without any regard to attractive appearance or arrangement. In many cases there is no background to the windows, with the result that whatever is placed there gets the benefit of all the loose dust raised in the store when the floor is swept. Little, if any, attempt is made to have the window display seasonable. In some flagrant cases Fourth of July goods have been noticed on exhibition around Christmas time.

However, generally speaking, it may be said that the retail hardware dealer who conducts his business along progressive lines has for many years realized the value of effective window displays and has studied the art of arranging attractively groups of various sorts of merchandise in his windows, thereby arousing the interest of the passers-by.

The progressive and aggressive retail hardware dealer also finds it to his advantage to have those of his employees who show a tendency toward that particular feature of merchandizing, study up on the various methods and ideas for the improvement of window displays, and during the many years that have elapsed since AMERICAN ARTISAN AND HARDWARE RECORD started its series of window display competitions, a steady improvement has been noted from year to year in the class of window displays submitted in these competitions.

Retail hardware dealers, as a whole, realize that attractively arranged window displays are one of the cheapest and most effective methods of drawing new business to their stores and for this reason they either spend much time themselves or have certain of their employees take the time to plan and carry out plans for such window displays.

To further increase the efficiency among retail hardware dealers and their employees in this art, AMERICAN ARTISAN AND HARDWARE RECORD once more presents an opportunity to its readers for participating in a similar competition.

All that is necessary for any retail hardware dealer or employee of a retail hardware store to enter into this competition is to arrange a window display, have a photograph taken of same, describe it in full and send in the photograph with complete description of same to AMERICAN ARTISAN AND HARDWARE RECORD.

Read the terms and conditions which are herewith given, and note the list of prizes amounting in total to \$100.00 in cash.

Award of Prizes.

The prizes will be awarded as follows:

First prize, \$50.00 in cash, for the best photograph and description received of window display of hardware or kindred lines;

Second prize, \$25.00 in cash, for the photograph and description second in merit;

Third prize, \$15.00 in cash, for the photograph and description third in order of excellence;

Fourth prize, \$10.00 in cash, for the photograph and description fourth in degree of worthiness.

Conditions of Competition.

The conditions of the competition are as follows:

The photograph must be accompanied by descriptions of how the window displays were arranged and the materials used. The description is important and hence should be adequate. These photographs and descriptions may be sent by mail or express, charges prepaid, and must reach this office not later than February 15, 1921. Address all photographs and descriptions to AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition, 620 South Michigan Avenue, Chicago, Illinois.

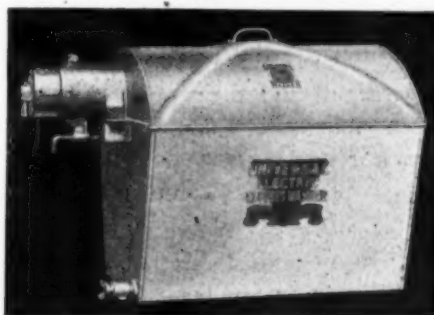
Each photograph and description must be signed by a fictitious name or device and the same name or device must be put in a sealed envelope containing the real name and address of the contestant. This sealed envelope is to be enclosed with the photograph. Contestants are permitted to enter as many photographs of displays as they please.

A Competition Committee of three will be appointed. One of them will be an expert window dresser and one an experienced hardware man. This Committee will pass upon the merits of all photographs and descriptions received, without knowing the names or addresses of the senders, and will decide the winners of the Competition.

AMERICAN ARTISAN AND HARDWARE RECORD reserves the right to publish all photographs and descriptions submitted.

New Electric Washer Operates Well Under Difficult Conditions.

In the modern apartment building there is not a great deal of space allowed for laundry work, if any at all, and the housewife has been forced to using many make-shifts in order to get her washing done, or else send it to steam laundries where the clothes are often spoiled by acids or torn in the heavy tumblers or other machinery.



Universal Electric Clothes Washer.

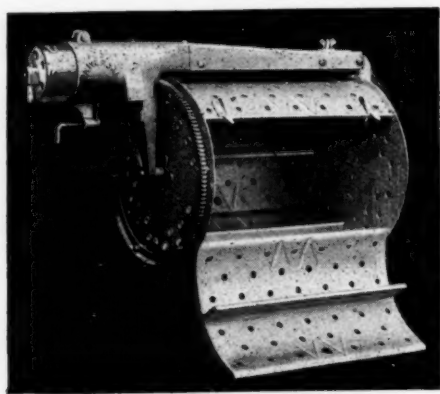
heavy tumblers or other machinery.

The advent of the Universal Electric Clothes Washer is therefore a distinct boon to dwellers in crowded city apartments, but its usefulness is not confined to them, for it is just as welcome and useful in

the suburban or rural cottage, where electric power is used, and the retail hardware dealer who sells one of these washers which is shown in the accompanying illustration will have made steady friends of both man and wife, because it is so simple in construction and operation and can be used under the most difficult conditions.

The first illustration shows that the washer is self-contained. The tub which contains the actual washing cylinder can be placed on top of a stove and used as a boiler; the entire unit may then be placed in the bath tub, or the cylinder part may be lifted out, placed and adjusted in a standard basement laundry tub and the clothes dumped in the tub with the hot "sudsy" water, after which the motor does the heavy work.

The second illustration shows the interior construction of the cylinder, together with the motor and the



Universal Portable Washing Unit.

adjustable extension arm by which the washer can be fitted into any size of standard stationary laundry tub.

The Universal all-metal one-way cylinder is made of zinc with galvanized steel ends, sides and both ends

are perforated, allowing free circulation of suds through the clothes.

The Universal is equipped with a specially designed electric motor which is governor-controlled and operates on any kind of electric current used in the home. A specially wound motor is also provided that will operate from any 32 volt private lighting plant.

After the washing is completed the "Universal" can be placed conveniently away under kitchen sink, table or in a closet.

The entire machine weighs 51 pounds, including motor, and is sold under a standard guarantee by the manufacturers.

The Universal zinc cylinder contains 2,918 cubic inches of washing space and will wash efficiently six sheets or their equivalent.

Dealers are invited to write the Universal Utilities Corporation, Alpena, Michigan, for detailed sales plan.

Gets Trade-Mark Registered in Patent Office.

The Wyoming Shovel Works, Wyoming, Pennsylvania, has secured United States Patent Office registration, under number 134,285, for the trade-mark shown in the accompanying illustration. The particular description of goods to which this trade-mark applies is shovels, spades, scoops, mattocks, and picks. The Company claims use of it since November 28, 1913.



134,285.

Wholesale Tool and Supply Firm Publishes Snappy House Organ.

Here is an extract from a statement published in the *Chan-Farco Beacon*, the snappy house organ of Chandler and Farquhar Company, Boston, Massachusetts, which is so unusual in its frankness and freedom from self-praise that the sentiment might well be adopted by many others in their advertising matter:

"Our business is that of furnishing and distributing service. We do not manufacture a commodity, but we do render a definite service in the distribution and sale of commodities. It has been our endeavor over a period of thirty-eight years to make this service increasingly valuable to our customers. We believe that we have succeeded in this endeavor.

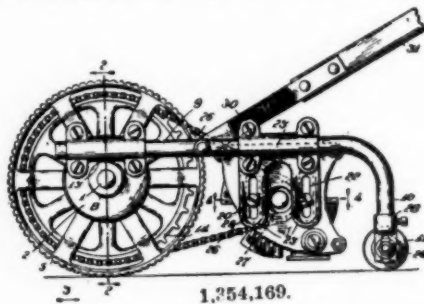
"We make no claim that we have found short-cuts to success in merchandising. The assembly, maintenance, and selling of large quantities of machinists' tools and supplies requires careful study and investigation, straight thinking and sound reasoning; and to properly perform its function, a Machinists' Tool and Supply House must have the right kind of an organization and an experienced and trained personnel.

"We issue a 1,132 page catalog as a buyers' assistant, and *Chan-Farco Beacon* monthly as a house organ. We want all users of good tools to know us and our service, and give us opportunity to increase our field of distribution."

Is Granted Patent Rights for Lawn Mower.

Harry T. Coldwell, Chicago, Illinois, assignor to George A. Sanford, Morristown, New Jersey, has secured United States patent rights, under number 1,354,169, for a lawn mower described as follows:

A lawn mower comprising in combination, a frame, a pair of tractor wheels supporting the same, cutting mechanism geared to said tractor wheels, means permitting vertical adjustment of the cutting mechanism on the frame, and separate means permitting adjustment of the cutting mechanism on the frame toward and from the tractor wheels to compensate for variations in the distance between the cutting mechanism and tractor wheels due to vertical adjustment, substantially as described.



mitting vertical adjustment of the cutting mechanism on the frame, and separate means permitting adjustment of the cutting mechanism on the frame toward and from the tractor wheels to compensate for variations in the distance between the cutting mechanism and tractor wheels due to vertical adjustment, substantially as described.

President Moore of Stanley Works Returns from European Trip.

E. Allen Moore, president of the Stanley Works, New Britain, Connecticut, has returned from a three months' trip abroad. He visited eight countries, including Germany, principally for the purpose of studying business conditions.

American Hardware Wins Favor In South Africa.

South Africa imports ordinarily about \$12,000,000 worth of hardware per year according to a report on the subject prepared by American Trade Commissioners Lundquist and Williams and just published by the Bureau of Foreign and Domestic Commerce of the Department of Commerce.

More than \$2,000,000 worth of this business now comes to the United States. The territory involved includes British South Africa and the neighboring colony of Portuguese East Africa.

Since 1914 the United States has made substantial progress in supplying hardware to this territory, and the Bureau's investigators are of the opinion that, with proper care and attention to special requirements, much of the present trade can be retained and new and profitable lines developed.

To aid American manufacturers to maintain and improve their position in this market is the purpose of the report. It discusses the market for particular lines of hardware, hammers, saws, shovels, cutlery, builders' hardware, cabinet hardware, and in fact the important items generally included in the hardware classification. It also takes up trade methods and suggestions and refers to a list of the names of hardware importers and dealers in all the principal cities of South Africa.

The report is known as Special Agents' Series No. 198—"South African Markets for American Hardware." It can be purchased for 10 cents from the Superintendent of Documents, Government Printing Office, Washington, D. C., or from any of the district and cooperative offices of the Bureau of Foreign and Domestic Commerce.

Hardware Club Members Hear Instructive Talk on Near East Nations.

A real truly Persian major general was the guest of honor at the Luncheon of the Hardware Club of Chicago Tuesday, October 12th, and gave a very interesting and instructive talk on the nations in what is commonly referred to as the Near East—the portion of Asia situated south of the Black Sea, where the Armenians, Syrians, Assyrians, Georgians and other peoples of the Caucasian group of races live.

General Azgabetian did not wear the sort of uniform that we are wont to consider as typically Persian. In fact, had it not been for the red and white button at the peak of his cap and the absence of the U. S. on his collar, he might easily have been taken for a regular American officer. On his breast he wore about a dozen beautiful decorations among which was the Cross of Wladimir, the most highly prized military medal under the former Russian Imperial Government, presented to him on the battlefield for personal bravery under fire.

He is a graduate of Columbia University, New York, and for many years was in the military and diplomatic service of Persia, having been First Secretary of that country's Legation at Washington, D. C. He is a physician by profession and during the war served as a surgeon in the Russian Imperial Army.

The General was introduced by President Coleman and spoke eloquently of the struggle through which the small Christian nations of the Near East had gone while under the yoke of the Ottoman Turks, the privations and persecutions which they have suffered and of the terrible depredations and murders committed by the Turks, even since the signing of the Armistice two years ago. He made a strong appeal for the support of the Fund for Near-East Relief.

Being an Armenian by birth, he was naturally very earnest in his story which touched the sympathy of his audience deeply, and to emphasize his request for continued assistance on the part of American men and women. The General pointed out that the Armenian people are well educated, with comparatively few illiterates; that they are highly industrious, a notable example being the large colony of Armenian farmers in California; that many of the European legislators and cabinets had at various times counted Armenians as their members; that they excelled in the liberal arts and sciences, as shown by the fact that four of the greatest American universities had Armenians on their faculties.

At the conclusion of his address, A George Pedersen, of AMERICAN ARTISAN AND HARDWARE RECORD, expressed to General Azgabetian the appreciation of the members of the Hardware Club for his very interesting talk and urged that the same liberality which had sustained this great little nation in its past struggles would be continued until the Armenians which have now become independent could establish themselves on a firm foundation.

New York State Retail Hardware Dealers Will Meet in Rochester.

The Nineteenth Annual Convention and Exposition of the New York State Retail Hardware Association will be held in Rochester, New York, February 22-25, 1921, the business sessions at Powers Hotel and the exhibit in Convention Hall.

Secretary John B. Foley, Syracuse, New York, states that indications are that the number of exhibitors and the character of the displays will excel all previous records.

Trade Opportunities in Foreign Lands.

The Bureau of Foreign and Domestic Commerce through its Special Agents, Consular Officers and Commercial Attachés, is receiving information of opportunities to sell hardware and kindred lines in several foreign countries. Names and locations will be supplied on request to the Bureau in Washington or its District Offices. Such requests should be made on separate sheets for each opportunity, stating the number as given herewith:

33829—The representative in the United States of a manufacturers' agent in Colombia desires to secure an agency for the sale of hardware.

33835—An exporter in the United States desires enameled-ware, aluminum, and cast-iron kitchen utensils for a manufacturer's representative in Colombia.

33842.—A merchant from Porto Rico is in the United States and desires to secure an agency for the sale of hardware, corrugated iron roofing, wire nails. Reference.

33847.—A manufacturers' representative desires to secure an agency from manufacturers for the sale in Australian and New Zealand cities of hardware of all descriptions, automobile supplies and accessories, bright wire goods, builders' hardware, cutlery, lawn mowers, mechanics' tools, scales, silver-plated ware, and wire cloth. References.

33853.—A metallurgical firm in Switzerland desires to secure an agency for the sale in European countries of iron, steel, metals, alloys, manganese, tungsten, and all other ores. No reference offered.

33855.—A merchant from Cuba is in the United States for a short time and desires to secure agencies from manufacturers only for the sale of hardware lines, building materials, saddlery, and mill supplies. Reference.

33856.—An importer in Egypt desires to secure an agency for the sale of textiles of all sorts, tacks, oils, paints, toilet requisites such as safety razors, shaving brushes and strops; glassware, cutlery, and stationery requisites. Quotations should be given c. i. f. Egyptian port, or f. o. b. American port or factory. Payment to be made against documents. References.

33870.—A merchant in India invites manufacturers and exporters of hand and power driven washing machines to submit literature, with net prices, time of delivery, and terms. Motors should be adapted to 110 and 230 volts, D. C., and 230 volts 50 cycles single and three phase A. C. No reference offered.

Coming Conventions.

American Hardware Manufacturers' Association, Marlborough-Blenheim Hotel, Atlantic City, New Jersey, October 20, 21, and 22, 1920. F. D. Mitchell, Secretary-Treasurer, 4106 Woolworth Building, New York City.

National Hardware Association, Marlborough-Blenheim Hotel, Atlantic City, New Jersey, October 20, 21, and 22, 1920. T. James Fernley, Secretary, Philadelphia, Pennsylvania.

American Washing Machine Manufacturers' Association, Hotel Sherman, Chicago, Illinois, November 10 and 11, 1920. E. B. Seitz, Secretary, 10 South LaSalle Street, Chicago, Illinois.

Automotive Equipment Association, Coliseum, Chicago, Illinois, November 15, 16, 17, 18 and 19, 1920. William M. Webster, Commissioner, 1813-1818 City Hall Square Building, Chicago, Illinois.

Automobile Accessories Branch of the National Hardware Association, Coliseum, St. Louis, Missouri, November 30, December 1, 2, and 3, 1920, headquarters, Hotel Statler. T. James Fernley, Secretary-Treasurer, 505 Arch Street, Philadelphia, Pennsylvania.

Southern Association of Stove Manufacturers, Evansville, Indiana, December 6 and 7, 1920. W. H. Cloud, Secretary, 216 Glendora Avenue, Louisville, Kentucky.

Texas Hardware and Implement Association, Adolphus Hotel, Dallas, Texas, January 18, 19, and 20, 1921. A. M. Cox, Secretary, 1808 Main street, Dallas, Texas.

Western Retail Implement, Vehicle and Hardware Association, Kansas City, January 18, 19 and 20, 1921. H. J. Hodge, Secretary, Abilene, Kansas.

Pacific Northwest Hardware and Implement Association, Seattle, Washington, January 18, 19, 20, and 21, 1921. E. E. Lucas, secretary, Hutton Building, Spokane, Washington.

Missouri Retail Hardware Association, Planters Hotel, St. Louis, Missouri, January 25, 26, and 27, 1921. F. X. Becherer, secretary, 5106 North Broadway, St. Louis, Missouri.

Mountain States Hardware and Implement Association, Brown Palace Hotel, Denver, Colorado, January 25, 26, 27, 1921. W. W. McAllister, Secretary-Treasurer, Boulder, Colorado.

Indiana Retail Hardware Association, January 25, 26, 27 and 28, 1921. (Place to be announced later.) G. F. Sheely, Secretary, Argos, Indiana.

Oregon Retail Hardware and Implement Dealers' Association, Portland, Oregon, January 25, 26, 27, and 28, 1921. E. E. Lucas, secretary, Hutton Building, Spokane, Washington.

Kentucky Hardware and Implement Dealers' Association, Louisville, Kentucky, January 25, 26, 27 and 28, 1921. J. M. Stone, Secretary, Sturgis, Kentucky.

West Virginia Retail Hardware Dealers' Association, Huntington, West Virginia, February 1, 2, 3, 1921. James B. Carson, Secretary-Treasurer, Dayton, Ohio.

Nebraska Retail Hardware Association, Hotel Rome, Omaha, Nebraska, February 1, 2, 3 and 4, 1921. George H. Dietz, Secretary, Lincoln, Nebraska.

Wisconsin Retail Hardware Association, Milwaukee, Wisconsin, February 2, 3 and 4, 1921. P. J. Jacobs, Secretary, Stevens Point, Wisconsin.

Oklahoma Hardware and Implement Association, Oklahoma City, February 8, 9, and 10, 1921. W. B. Porch, secretary-treasurer, Oklahoma City, Oklahoma.

Michigan Retail Hardware Association, Grand Rapids, Michigan, February 8, 9, 10, 11, 1921. Arthur J. Scott, Secretary, Marine City, Michigan.

The Michigan Retail Hardware Association, Grand Rapids, Michigan, February 8, 9, 10, and 11, 1921. Arthur J. Scott, Secretary, Marine City, Michigan.

Iowa Retail Hardware Association, Des Moines, Iowa, February 8, 9, 10, and 11, 1921. A. R. Sale, secretary-treasurer, Mason City, Iowa.

North Dakota Retail Hardware Association, Fargo, North Dakota, February 8, 9, 10, and 11, 1921. C. N. Barnes, Secretary, Grand Forks, North Dakota.

Pennsylvania and Atlantic Seaboard Hardware Association, Incorporated, Convention and Exhibition, Philadelphia Commercial Museum, Philadelphia, February 8, 9, 10, 11, 1921. Sharon E. Jones, Secretary, 1314 Fulton Building, Pittsburgh.

Illinois Retail Hardware Association, Hotel Sherman, Chicago, Illinois, February 15, 16 and 17, 1921. Leon D. Nish, Secretary, Elgin, Illinois.

California Retail Hardware and Implement Association, San Francisco, California, February 15, 16, and 17, 1921. LeRoy Smith, secretary, 112 Market street, San Francisco, California.

Minnesota Retail Hardware Association, St. Paul Auditorium, St. Paul, Minnesota, February 15, 16, 17, 18, 1921. H. O. Roberts, Secretary, Metropolitan Life Building, Minneapolis, Minnesota.

Ohio Hardware Association, Columbus, Ohio, February 15, 16, 17 and 18, 1921. Hotel Headquarters, Deshler Hotel, Exhibition in Memorial Hall. James B. Carson, Secretary, Dayton, Ohio.

New England Hardware Dealers' Association, Mechanics' Building, Boston, Massachusetts, February 21, 22, and 23, 1921. George A. Fiel, secretary, 10 High street, Boston, Massachusetts.

Michigan Sheet Metal Contractors' Association, Hotel Durant, Flint, Michigan, February 22, 23, and 24, 1921. F. E. Ederle, Secretary, 1121 Franklin Street, S. E., Grand Rapids, Michigan.

New York State Retail Hardware Association, Rochester, New York, February 22, 23, 24, and 25, 1921. John B. Foley, Secretary, 607 City Bank Building, Syracuse, New York.

South Dakota Retail Hardware Association, Sioux Falls, South Dakota, February 22, 23, 24, 25, 1921. H. O. Roberts, Secretary, Metropolitan Life Building, Minneapolis, Minnesota.

Panhandle Hardware and Implement Association, Amarillo, Texas, May 8, 9, and 10, 1921. Troy Thompson, Secretary, Dalhart, Texas.

Hardware Association of the Carolinas, Charlotte, North Carolina, May 10, 11, 12, and 13, 1921. T. W. Dixon, secretary-treasurer, Charlotte, North Carolina.

Southeastern Retail Hardware and Implement Association (composed of Alabama, Florida, Georgia and Tennessee), Atlanta, Georgia, May 17, 18, 19 and 20, 1921. Walter Harlan, Secretary, 701 Grand Theater Building, Atlanta, Georgia.

Retail Hardware Doings.

Illinois.

E. C. Firebaugh has sold his hardware store to R. E. Gast at Ogden.

Indiana.

St. Scott Hardware Company has been incorporated with a capital stock of \$10,000 by John T. Scott, Mary A. Scott, and Percy E. Scott, at Vincennes.

Evan Pierce has purchased the Pruitt Hardware stock at Edinburg.

Kansas.

J. F. Buhner has sold his hardware business at Enterprise to Myers and Chandler who will continue the business.

The hardware store and plumbing shop of A. F. Strasser's has been moved to a new location at 1313 Southwest Boulevard, Rosedale.

William Sipe has traded his hardware store at Kingman for land near Kiowa.

Missouri.

L. R. Boyer has purchased the Pope Hardware store at Hartville.

E. H. Bennett implement business, which is located at 117 West Second Street, Sedalia, has been purchased and is now known as the Fricke Hardware Company.

John O'Brien has sold his stock of hardware and implements at Plattsburg to the Platte-Clinton Hardware Company. Joseph O'Brien will be manager of the Plattsburg store of the company.

G. E. Yager has purchased the interest of his partner, W. F. Resser, in the hardware business in New London.

Charley Sloan has purchased the hardware store of J. L. Morgan at Mirabile.

The Rau hardware store, which has been located in the Krueger building at 515 Broadway, is moving into the Drusch Building, corner Broadway and Ellis Streets, Cape Girardeau; the change is made in order to get more room. W. A. Rau, manager of the store, will increase his stock.

Wisconsin.

John Langenfeld has disposed of his hardware business at Marytown, and moved to New Holstein.

Selling Automotive Accessories

How Hardware Dealers Can Increase Their Profits by Handling Standardized Automotive Accessories. Facts and Suggestions to Aid Them in Giving Better Service.

AUTO ACCESSORY JOBBERS WILL MEET IN ATLANTIC CITY.

Tuesday, October 19th, will be given over to the Automobile Accessories Branch of the National Hardware Association which meets in annual convention that week in Atlantic City, New Jersey. Among the important features of the two sessions will be the annual address of the chairman, A. H. Nichols, of Buhl Sons Company, Detroit, Michigan.

Albert Reeves, general manager of the National Automobile Chamber of Commerce, New York City, will speak on "The Automotive Industry; Its Present and Future."

Discussions will follow on the following subjects: "The Tire and Tube Situation;" "How Many Brands of Spark Plugs, Piston Rings, Etc., Should a Wholesaler Carry?" "Should a Manufacturer Guarantee the Sale of New Goods?" "Increasing the Sale of Accessories by Hardware Retailers."

Gets Patent for Automobile Wrench Combination.

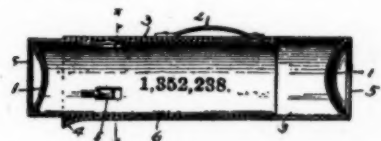
Under number 1,353,496, United States patent rights have been obtained by Heyman Rosenberg, New York City, for an automobile wrench combination described as follows:



The combination of a casing having an opening in the side thereof, a plurality of slidably mounted tools within the casing, each tool being provided with a notch located in line with said opening, for the insertion of the fingers to extend said tools.

Procures Patent for Automobile Tire Chain Holder.

Ernest Lemuel Arthur, Pembroke, Virginia, has secured United States patent rights, under number 1,352,238, for an automobile tire chain holder described herewith:

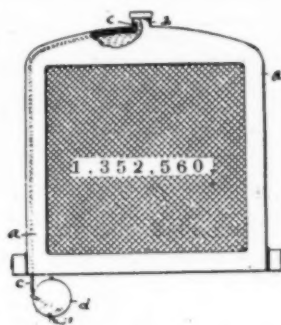


In an article of the character described, a pair of cylindrical metallic shells having an open end and fitting one within the other, the other end of the shells being closed by a concaved shell member, the outer shell having a hand strap extending lengthwise thereof and a lip protruding from the open end, the inner shell having a plurality of slots adjacent to its

closed end, a plurality of plate springs secured to the inner face of the inner shell and having their free ends working through the slots for engaging the inner face of the outer shell, and a flat bar extending centrally across the closed ends flush with the periphery of the shells so as to form seats and hand grasps for the shells.

Gets Patent for Cooling System for Automobile Engines.

Under number 1,352,560, United States patent rights have been granted to Horace T. Thomas, Lansing, Michigan, for a cooling system for automobile engines described in the following:



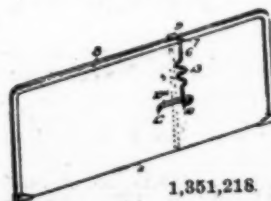
The combination with a cooling system having a radiator, of a tank located below said radiator, a condenser within said tank opening to the interior of the same and a delivery pipe leading from the radiator above the normal level of liquid therein and communicating with said condenser, said tank being adapted to contain liquid surrounding said condenser and being provided with an escape for steam above the level of the liquid therein.

Is Chartered to Manufacture Automotive Accessories.

With a capital stock of \$200,000, the Harris Company, Incorporated, Boston, Massachusetts, has been chartered to manufacture automotive accessories. The incorporators are Frank J. Harris, Malden, Massachusetts; James R. Powers, Milton, Massachusetts; and Robert C. Turner, East Boston, Massachusetts.

Patents Windshield Cleaner for Automobiles.

Under number 1,351,218, United States patent rights have been granted to Oliver C. Ritz-Woller, Chicago, Illinois, for a windshield cleaner for automobiles described in the following:

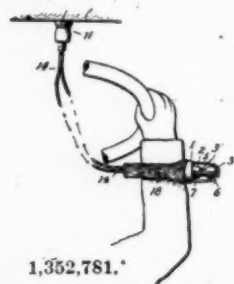


A device of the class described, comprising a supporting member adapted to slidably contact with the edge of a windshield, a wiper arm adapted to engage the outer surface of said shield, a handle disposed on the inner side of said shield, and a

shoe integral with said handle and disposed at substantially right angles thereto and to said wiper arm, said shoe being adapted to contact with the inner surface to said shield to prevent said device from rocking during manipulation and to retain said handle spaced from said shield.

Gets Patent for Automobile Signaling Device.

United States patent rights, under number 1,352,787, have been secured by Benjamin Birkenfeld, New York City, for an automobile signaling device described as follows:



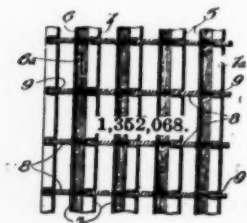
A signaling device of the kind described comprising a band adapted to be detachably engaged about the forearm, a supporting base mounted to be securely carried on the outer face of the band, an electric lamp socket opening outwardly from the base, an electric lamp having a plug to engage the socket, said plug being of a length to project outside of the socket when engaged therein with the lamp bulb standing out prominently from the forearm entirely clear of and at a substantial distance from the lamp socket, a guard for the lamp consisting of a wire frame secured to said supporting base and extending outwardly therefrom over the lamp bulb, and means for supplying current to the lamp.

Company Is Organized to Make Skid Chains.

For the purpose of manufacturing automobile skid chains, the Montgomery Manufacturing Company, Waveland, Indiana, has been incorporated with a capital of \$200,000. Incorporators are J. O. Ralston, R. L. Walker, and E. E. Gates.

Is Granted Patent Rights for Radiator Core.

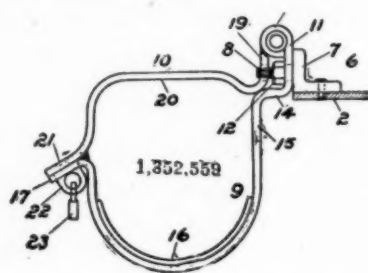
Robert Kleine, Chicago, Illinois, has been granted United States patent rights, under number 1,352,068, for the radiator core described herewith:



In a radiator of the kind described, cooperating plates for forming a radiator core unit, one of said plates being folded transversely at intervals to form laterally projecting leaves or walls and having longitudinally extending shallow grooves pressed into its face opposite to said walls, the other plate being flat and provided with outwardly extending depressed portions spaced longitudinally thereof similar to the spacing of said leaves and adapted to space the leaves of an adjacent plate, the hollow sides of said depressions being arranged opposite to said grooves and the said plates being adapted to be joined at their edges by soldering or otherwise, substantially as described.

Obtains Patent for Tire Holder for Automobiles.

United States patent rights, under number 1,352,559, have been obtained by Lawrence H. Teel, Salem, Massachusetts, for a tire holder for automobiles described in the following:



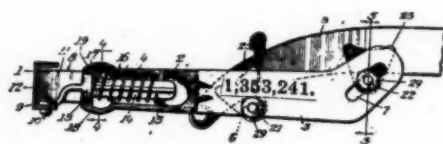
The combination with a tire-supporting rack and fixture-secured to said rack having a threaded shank projecting therefrom, of a tire-retaining member arranged upon said shank and extending by the face of a tire mounted upon the rack, a nut on said shank fixing said member, a member hinged to said first-named member and movable to occupy either an operative position or an out-of-the-way turned position and when occupying its operative position co-operating with said first-named member to form a housing enveloping said nut, said members being provided with ends adjacent one another and lockable together when said hinged member is occupying its operative position.

Zinc Coating on Tire Rims Retards Rusting.

Many automobile wheel rims are now zinc coated by the sherardizing process. This treatment retards rusting, which in the past impaired the life of the rims and caused occasional accidents due to fastenings giving away.

Patents Automobile Bumper.

Walter V. Isgrig, Milwaukee, Wisconsin, assignor to Badger Manufacturing Corporation, Milwaukee, Wisconsin, a Corporation of Delaware, has obtained United States patent rights, number 1,353,241, for an automobile bumper described as follows:



A bumper bracket comprising an arm for mounting upon an automobile frame, and having a beveled surface, a member slidably supported by said arm and having a beveled surface for cooperation with the beveled surface on said arm, and yieldable means for maintaining the beveled surfaces of said arm and said member in wedging engagement.

Says AMERICAN ARTISAN Is Splendid Paper.

TO AMERICAN ARTISAN AND HARDWARE RECORD:

Kindly excuse me for being late with my subscription for your splendid paper. I could not get along without it.

Yours truly,

JOHN E. PERTL.

2420 East 53rd Street, Los Angeles, California,
October 5, 1920.

Advertising Help and Comment

Send Us Copies of Your Advertisements. Let Us Help You Get Bigger Results by Advice and Suggestions. The Service Is Free. Don't Hesitate to Take Advantage of It.

What is known as institutional advertising has come to be a recognized factor in developing good will for a particular business.

From this angle, there is little reason for finding fault with the



You cannot tell anything about the quality of hardware before you use it, but we can. We have been in the business a long time and know which brands give you service. These are the brands we sell.

So when you think hardware think our store and come in. Our stuff and prices will please you. Our hardware is the best; it stands the test.

The Western Hardware Co.

431 HARRISON AVENUE

PHONE 17

advertisement of the Western Hardware Company, which ran in the *Herald Democrat*, Leadville, Colorado.

The original of the reproduction, shown herewith, was six inches by two columns wide.

The cartoon at the top takes up more than half the space.

It serves a purpose, however, which justifies the apparent disproportion which it has toward the printed copy.

There is a whimsical association of ideas between the wrench with its monkey head and the thought of hardware in general.

This is accentuated by play on words, "No Monkey Business About Our Store or Goods."

The text is designed with a view to creating confidence in the trustworthiness of the Western Hardware Company.

The opening statement is positive in its finality of assertion.

Nevertheless, it does not antagonize the reader.

It carries the truth that no one knows anything about the quality of hardware before using it.

Then it suggests that the Western Hardware Company has by practical experience learned the reliability of the hardware which it offers for sale.

The transition from this phase of the subject to the inference that the Western Hardware Company can be relied upon to give satisfaction in the commodities which it sells is an easy and natural conclusion.

Manifestly, in an advertisement of this kind, which has for its object the production of a general impression rather than the sale of a particular commodity, there is no need to introduce any special article with its prices into the general scheme of the advertisement.

* * *

A fine two-column advertisement furnished by the manufacturer is

SAVE
The Cost of a
Heating Stove

Not only can you cook and bake—you can heat one or two extra rooms with

COLE'S
PATENTED
HIGH OVEN RANGE

This saves not only the initial cost, but the upkeep of a heating stove.

Cole's High Oven Range has the same Hot Blast principle of combustion that has made Cole's Hot Blast Heaters famous. Guaranteed fuel saving is yours with this remarkable combined Heater, Cooker and Baker.

We know what it will do—let us tell you about it.

QUINN & MILLER

shown in the accompanying illustration. It was inserted by Quinn and Miller in the *Free Press*, Kingston, North Carolina.

The illustration is high class; the style of type excellent; the layout effective; the text of the sort that carries conviction to the reader.

Quinn and Miller might have made the advertisement more helpful to their business by quoting a schedule of prices—or just one, if only one size is carried by them.

It is also to be noted that there is nothing in the advertisement to tell the stranger where this firm is located. Name of street, number on the street, and name of town should always be included.

* * *

E. G. Prior and Company published the two-column advertisement, which is shown herewith, in reduced form, in the *Daily Colonist*, Victoria, B. C., Canada.

At the top, it will be noted, there is a notice to the effect that Gun Licenses are issued by the firm, thus showing the person who might be interested in buying a pistol that he would save trouble by making the purchase from Prior's—an of-

WE ISSUE GUN LICENSES

Colt's
New Automatic
Target Pistol

.22 Cal.—Rim-Fire
A Great Favorite With Hunters and Trappers

E. G. PRIOR & CO.
LIMITED LIABILITY
Corner Government and Johnson Street
Sporting Goods Entrance on Johnson Street

fer of service, in addition to a good pistol.

The advertisement gives a fair amount of information but two points are lacking: No price is quoted, nor is the name of the town where Prior's is in business given, although there is plenty of room for both items.

Warm Air Heating and Ventilating

*Better Installations. How to Sell More Warm Air Heaters.
Reports of Progress in Warm Air Heater Research Work.
Ventilating Factories, Garages, Theaters, and Houses.*

HALL-NEAL FURNACE COMPANY HOUSED IN FINE NEW FACTORY.

The Hall-Neal Furnace Company, manufacturers of Victor Steel Warm Air Heaters and Neal Register Shields, have moved into their new factory, 1324 North Capitol Avenue, Indianapolis, Indiana, which is equipped with the most modern machinery and labor-saving appliances.

Grand Rapids Warm Air Heating Contractors Invite State Association.

At the October meeting of the Grand Rapids, Michigan, Heating Contractors' Association which was held in the shop of Isaac Lammers, it was unanimously decided to extend an invitation to the Michigan Sheet Metal Contractors' Association to hold its next Annual Outing in Grand Rapids. This active organization well realizes the size of such an undertaking, but is confident it can do the job to the entire satisfaction of everybody concerned. The members are very proud of their city and are anxious to show it to the other members outside. Several of the Salesmen's Auxiliary living in this fair city are also pulling for the next outing and all promise their support if given the opportunity.

"Hoot Mon" Says Border Unnecessary for Registers.

On page 31 of the October second issue of AMERICAN ARTISAN AND HARDWARE RECORD, an inquiry was published from Wendt and Teichler, Dundee, Illinois, as to whether it is safe to use a warm air register without inserting a border.

Charles Hahn, 5205 Irving Park Boulevard, Chicago, known in the trade as the "Hoot Mon," writes as follows:

TO AMERICAN ARTISAN AND HARDWARE RECORD:

Of course, a border is always best, but I have landed many a job by leaving out the border, and in the twenty-odd years that I have been in the warm air heater business, I have never seen the floors scorched, and I would often be back on the same job years afterward.

However, I used ordinary precautions, such as cutting the hole very full and nailing asbestos paper on joists and also papering the box.

Leaving out the border also enables the installer to put his register close to the wall and thus often does away with the necessity for cutting the floor rug.

HOOT MON.

5205 Irving Park Boulevard, Chicago, October 10, 1920.

Setting Standards for Industrial Dust Exhaust System.

The following excerpt from the Public Health Reports, Volume 34, Number 10, of the United States Public Health Service, Washington, D. C., will be of special interest to installers of ventilating apparatus and exhaust systems in industrial plants:

From the standpoint of the sanitarian and public health official, the influence of dusty trades on health is largely dependent on the character of the dust. The industrial dusts with which the present study is concerned are those which are injurious by virtue of their physical properties and their mechanical irritant action rather than because of chemical toxicity or bacterial content.

The protection of workers against such dusts can sometimes be attained by the substitution of wet for dry processes and sometimes by accomplishing sorting or abrading operations by the use of mechanical devices in inclosed spaces. In certain extreme cases, as in the sand-blasting of large castings, the wearing of special respirators or helmets is the only practicable safeguard. In most dust-generating processes, however, and notably in the operation of grinding and buffing wheels, the removal of the dust at its point of production by a powerful system of local exhaust ventilation is the most effective safeguard.

Many State laws deal with this problem, but until recently the provisions they contain have been very general in their nature. Seven years ago (1911) Hoffman reviewed the state of existing legislation as follows:

"Ten States make special mention of dusts from emery wheels or other metallic substances. Except in five States (Illinois, Michigan, New Jersey, Ohio, and Wisconsin) the laws require merely that injurious dusts are to be removed 'as far as practicable' or 'as far as the nature of the business permits,' or 'when inhaled to an injurious extent;' and the entire decision as to the kind of protective device necessary is left to the discretion of the inspection officials. In the five States mentioned the laws are more specific in that they carefully define the character of the appliances to be installed and place the duty of installation directly upon the employer. In Michigan and Illinois under the 1905 act, which was not repealed by the law of 1909, however, the inspector may not enforce the provisions of the law unless complaint has been made by some person, and in Illinois the complaint must be accompanied by \$1. Twenty-eight States and the District of Columbia have no specific legal enactment for the protection of workers from injurious dusts, although several of these have general provisions with reference to ventilation."

Since 1911 several States have adopted, usually through industrial commissions or industrial boards, more specific and definite standards for dust removal. So far as we are aware those regulations all depend on the establishment of a minimum static suction head in the exhaust ducts connected with grinding, polishing, and buffing wheels.

Thus, according to the Wisconsin Code—

"On all grinding, buffing, and polishing wheels, the suction in the connection to the hood must be sufficient to displace a column of water in a U tube, 5 inches in diameter.

"The test for suction with the U tube must be a static test and must be made in the following manner: A hole $\frac{1}{8}$ inch in diameter must be made in the suction pipe approximately 12 inches from the connection to the hood. The rubber hose attached to the U tube must be placed over the $\frac{1}{8}$ -inch hole and the test made under these conditions. When the water in the U tube stands at 0, the 5-inch displacement is secured when one column of water rises $2\frac{1}{2}$ inches above 0 and the other column of water falls $2\frac{1}{2}$ inches below 0."

The New Jersey code requires that—

"Sufficient suction head shall be maintained in each branch pipe within 15 inches of the hood to displace 2 inches of water in a U-shaped tube. Pressure to be taken by pressing tube attachment over small opening through pipe, commonly called static method. Tests to be made with all branches open and unobstructed."

The New York code reads:

"Sufficient static suction shall be maintained in every branch pipe within 1 foot of the hood to produce a difference of level of at least 2 inches of water between the two sides of a U-shaped tube. Test shall be made placing one end of a rubber tube over a small hole made in pipe, the other end of tube being connected to one side of U-shaped water gage. Such test shall be made with all branch pipes open and unobstructed."

The head, as thus measured, includes both velocity and frictional components, and it is obvious that it bears no necessary relation to the velocity of the exhaust at the face of the wheel itself. The State codes, to which reference has been made, do, it is true, specify the size of the exhaust piping to be installed for a wheel of any given size, but the form of the hood and its arrangement in relation to the grinding process will materially affect the results obtained, while any obstruction to air flow between the wheel and the point where the suction head is measured will reduce the actual efficiency obtained with a given suction head. For example, in a certain polishing shop studied by us the exhaust was affected through a 10x6 inch opening in the machine table directly below the wheel. In this opening were placed screens of wire mesh, some with 9/16 inch meshes and others with $\frac{1}{4}$ inch meshes. The fine mesh screens were many of them badly clogged with lint and other forms of dirt. With the same suction head in the exhaust pipe, the velocity through the 10x6 inch opening without any screen was 900 feet per minute; with a fairly clean coarse screen it was

860 feet; with a badly clogged fine screen it was only 500 feet.

For such reasons the standard which depends only on suction head in the exhaust pipe seems to us very inadequate as a measure of the actual protection afforded to the worker, and the difference between the New York and New Jersey standards of 2 inches and the Wisconsin standard of 5 inches indicates that the evidence upon which even this imperfect standard has been based must be somewhat inconclusive.

A more valuable sort of standard from the sanitary standpoint would be one based on actual velocity of exhaust at the point of dust production, instead of suction head in the duct below. Such a standard was suggested by the British departmental committee on the lead hazard in the pottery industry (Great Britain, 1910) in the form of a very mild recommendation that a speed of 100 linear feet per minute should be maintained at the point of dust production.

The only standard that can be altogether satisfactory to the sanitarian, however, is one that deals directly with the actual condition of the air inhaled by the worker. It is well that certain definite suction heads and air velocities should be maintained, but what we really want to know is whether the dust has actually been removed. Mechanical standards are convenient and easy of application, but whenever special conditions interfere with such correlation it is the actual state of the atmosphere that is of primary importance. What we must ultimately rely upon in the future is a standard that rests upon the number or weight of dust particles actually contained in the air breathed by the worker.

So far as we are aware only two efforts have so far been made to set definite standards of this kind for industrial dusts, both of them in connection with the air of mines.

The earliest of these attempts was made by the miners' phthisis prevention committee of South Africa (1916), and reference to their report shows that they were fully cognizant of the difficulty and the novelty of the problem. To quote:

"69. The committee, being desirous of taking immediate steps to cope with the disease, was confronted with the difficulty that no standard of purity with regard to dust existed to which to work. In order to assist in arriving at such a standard, tests of the amount and the character of the dust in the street air of Johannesburg were taken as affording some basis of comparison. At the same time it was soon discovered by experiment that it was practically impossible to remove by dust-allaying devices all the dust from either underground or surface air. The question arose as to what weight per cubic milligram could be considered permissible, and as this was more or less a matter for conjecture the committee decided, for the time being, to adopt the tentative standard of 5 milligrams of dust to the cubic milligram of air. This figure was at the time supposed to represent the average amount of silicious dust under 70 microns diameter present in the air of a Johannesburg street, but on account of the great difference in

character and the proportion of 'injurious' dust between mine and street dust, the direct comparison of weights may be misleading."

"The amount of 'injurious' dust which air can carry without being dangerous has not yet been determined, and, indeed, can only be ascertained by experience."

The only other attempt to set a standard for the dust content of air was made by Higgins, Lanza, Laney, and Rice (1917) in their very complete study of the mines in the Joplin district (Missouri). They say:

"The most reasonable standard then appears to be one based on the quantity of dust that will remain in suspension after the best known methods have been put into use for its abatement.

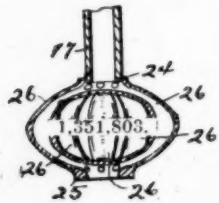
"It has been demonstrated in the sheet ground mines of the Joplin district that by the proper use of water and the regulation of certain details of mining the quantity of dust in the mine air can be kept below 1 milligram per 100 liters of air; so it seems reasonable to use 1 milligram as a standard at least for the Joplin district."

No similar studies have, so far as we are aware, been made in connection with the dust produced in grinding or polishing industries.

This article will be continued in a near issue of AMERICAN ARTISAN AND HARDWARE RECORD.

Obtains Patent for Hot Blast Downdraft Furnace.

Jonathan J. Smith, Des Moines, Iowa, assignor of one-half to Oscar F. Petersen, Des Moines, Iowa, has secured United States patent rights, under number 1,351,803, for a hot blast downdraft furnace described as follows:



A pipe adapted to be suspended within a furnace and a nozzle device suspended on said pipe, said nozzle device having opposed spaced collars, one opening to said pipe and the other opening to said furnace, and intermediate, wholly outwardly arched communicating tubular members opening at their ends only to said collar members.

Heating and Ventilating to Be Feature of Chicago's Health Show.

During the last week in November—November 24th to 29th inclusive—to be specific—there will be held in the Coliseum and Coliseum Annex under the auspices of the Chicago Department of Health and other cooperating civic and social organizations, the largest and most comprehensive health exposition that has been held anywhere on the American continent.

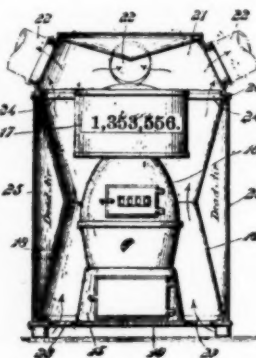
There will be exhibits on home heating and ventilation, on outdoor sleeping, on proper apparel for the different seasons of the year—in other words, how to dress and what to wear. Ventilation of schools and all places of public assembly will be illustrated. Sections devoted to industrial sanitation and

hygiene and exhibits showing in a popular and effective way the various activities, not only of the Department of Health, but of other co-operative agencies and organizations in Chicago. There will be moving picture shows that will be as interesting as they are valuable and instructive in character.

Exhibits will be grouped in classes and in association with corresponding educational exhibits in such a way as to make the entire show, when once it has been seen, almost a liberal course in health training.

Gets United States Patent Rights for Heater.

Charles A. Xardell, Utica, New York, has secured United States patent rights, under number 1,353,556, for a heater described in the following:



In a furnace or heater, the combination with a combustion chamber, of a distributing chamber, a fluid chamber or conduit freely opening into said distributing chamber, said fluid chamber or conduit surrounding said combustion chamber and having an inlet at its bottom, an outlet at its top, and un-

broken walls extending from said inlet to said outlet, said conduit tapering upward from its bottom to a point adjacent the zone of greatest heat of said combustion chamber, and thereafter increasing in diameter upward to said outlet, thus forming an unobstructed Venturi tube around said combustion chamber.

Must Provide for Egress as Well as for Ingress of Air.

In a very helpful booklet entitled "Health and Ventilation," published recently by Merchant and Evans Company, manufacturers of "Star" roof ventilators, an outline of the history of ventilation is given, together with a resume of some of the most important factors in ventilation.

From this booklet, copies of which may be obtained by sheet metal contractors and others engaged in ventilating work by writing to Merchant and Evans Company, Philadelphia, the following quotations are made:

An automatic roof ventilator, whether of the stationary or rotating type, is a device designed to produce or accelerate the flow of air from an enclosure, but the vitally important fact is not generally known, or very frequently forgotten, that some means of ingress for the air must be provided in addition to the mechanical device to the exhaust of the air.

The construction engineers of the United States Navy and all good architects and engineers, thoroughly realize that doors and windows must be in sufficient quantities and of sufficient sizes to provide for the ingress of air of a volume to suit the capacity (breathing) of the occupants of the building and the ventilators must be of sufficient size or capacity and

of a sufficient quantity to carry away all the air vitiated within the building, that must be carried off through these ventilators.

Good ventilators must also be so constructed as to exclude rain or snow without restricting the flow of air through them.

Impure air plays a very important part in occupational diseases and the evil effects of insufficient ventilation are especially alarming. If there is an absence of fresh air in such places, coupled with unsanitary plumbing or injurious dust and fumes, conditions are dangerous. Good ventilation is therefore not a luxury. It is a necessity, and by increasing industrial efficiency, preventing disease, and consequent loss to the employer, it more than warrants the investment and is really an insurance against inefficiency and illness.

It is stated that death rates have been reduced by properly ventilating children's hospitals from fifty to five per cent; in surgical wards of general hospitals from forty-four to thirteen per cent, and in army hospitals from twenty-three to six per cent.

Infectious diseases prevalent among workmen in shops are known to factory inspectors as due frequently to unsanitary conditions. The economic value of pure air should be recognized by the factory owner and his investment in ventilators would bring returns more than warranting the original outlay.

Doctor John S. Billings, of Washington, D. C., a Surgeon of the United States Navy, whose book on warm air and ventilation is accepted as a standard authority, figured that thirty cubic feet per minute or eighteen hundred cubic feet per hour, per person, is the minimum supply of air essential for ventilation.

In Massachusetts and other States a fresh air supply of thirty cubic feet per person per minute is required by law.

Secure This Book on Tests of Roof Ventilators.

In the annual report of the Director of the Bureau of Standards to the Secretary of Commerce for the fiscal year ending June 30, 1919, there will be found on page 171 the following statement referring to tests of roof ventilators:

"For the equipment of cantonments, hospitals and other buildings, it was necessary for the Army to purchase large numbers of roof ventilators. No reliable test data as to the efficiency of the various types and makes offered for sale were available. At the request of the Construction Division of the Army, a comparative test of some thirty-three different eighteen inch ventilators was made in the Bureau's wind tunnel. The comparative efficiency of the different samples in exhausting air at different wind velocities under identical conditions for each ventilator was determined, and a report submitted, in which the various makes of ventilators were listed, in the order of their merit, for the guidance of the purchasing officers."

While the statement made in the beginning of the foregoing paragraph may appear rather sweeping, the fact remains that experts of the Bureau of Standards, who may reasonably be supposed to have no particular preference, were actually unable to procure any

reliable test data as to the efficiency of various types of ventilators, inasmuch as they could put comparatively little faith into tables published by various ventilator manufacturers, as in most instances these tables were—if not absolutely incorrect—at least not thoroughly dependable.

It is also true that, so far as AMERICAN ARTISAN AND HARDWARE RECORD knows, there had not been any general comparative test made by a recognized authority, such as an institute of technology or any other independent engineering experts, of what amount of air a given size of various types of roof ventilators would actually exhaust per minute.

However, under the direction of the Bureau of Standards, such a test was actually made and the results of this test are of sufficient interest to any sheet metal contractor or installer of ventilating apparatus that it will be well worth his while to procure a copy of the above mentioned report which can be secured from the Superintendent of Documents, Government Printing Office, Washington, D. C.

French Peasants Make Odd Use of Copper Kettles.

No haystack is complete in the Basque district, in the extreme southwest of France, without a copper kettle, perched, capstone fashion, upon the peak of the post about which the hay is heaped.

For generations the peasants in this part of the world have worked their farms after the fashion of their forefathers. The same superstitions and traditions in vogue centuries ago are still clung to, and of these none is more generally sworn by than the belief that the sun's rays at midday, concentrated on the tops of the haystacks, will set the hay on fire. A copper kettle or some other metal kitchen utensil is therefore inverted over the top of the pile "to deflect the sun's rays, and keep the hay cool."

At the Farm School for War Orphans, maintained at St. Emilion, France, by the Junior Red Cross of America, the instructors have no little amusement as they gradually weed out these queer notions pertaining to agriculture, and substitute for them the new teachings of scientific and intensive farming.

Remember the Red Cross Roll Call, November 11 to 25. Of course you are going to join, like all other good Americans.

Says AMERICAN ARTISAN Is Great Help.

TO AMERICAN ARTISAN AND HARDWARE RECORD:

Enclosed you will find check for \$2.00 in renewal of my subscription to AMERICAN ARTISAN, and again I must say that it has been a great help to me in pattern and heating problems. It is the best journal for sheet metal workers.

Sincerely yours,

FRANK RIMNAC.

Lonsdale, Minnesota, October 6, 1920.

It is not the place nor the condition, but the mind alone, that can make one happy or miserable.—L'Estrange.

Practical Helps for Tinsmiths

No Two Jobs Are Exactly Alike. Therefore, the Sheet Metal Worker Has to Meet Each Difficulty as It Comes. Send Your Problems to Us. Let Our Experts Help You.

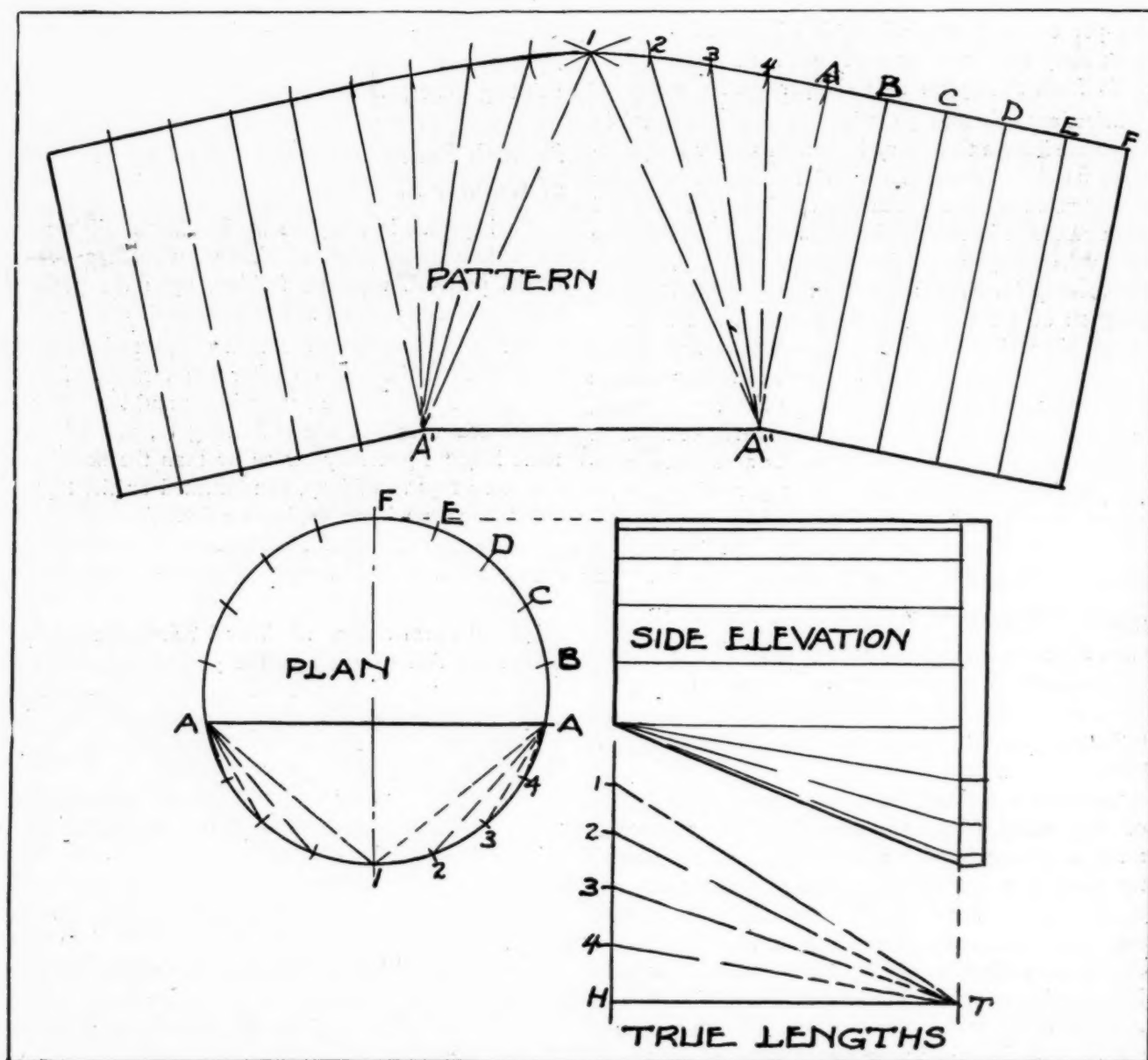
PATTERN FOR BREECHING.

By O. W. Kothe, Principal St. Louis Technical Institute and Instructor in the David Rankin, Jr., School of Mechanical Trades, St. Louis, Missouri. Written especially for American Artisan and Hardware Record.

On stacks as a means of connecting the stack with boiler many designs of fittings are used. In the ac-

F-A-1. The side elevation is not required as it gives only the height.

The only true lengths required for this breeching are those as A-1-2-3-4. Draw a line as H-T equal to the height of breeching. Then pick the plan lines as A-1; A-2; A-3; A-4, and set as H-1-2-3-4. Then H-1-2-3-4 will be the true lengths.



Patterns for Breeching.

companying drawing we have one that is odd and yet simple.

Observe the plan, where the top forms a cylinder and the bottom takes on the shape of A-A-F. So part is layed out similar to a square to round, and the others is like a cylinder.

When the plan is drawn, divide in equal spaces as

To set out the patterns, draw any line as A'-A'' and using true length T-1 as radius, strike and cross arcs in point 1. Then use girth space 1-3 of plan, and 1 in pattern as center, strike arcs as at 2.

Next pick true lengths T-2, and using A'-A'' as centers cross arcs as at 2. Repeat this process until points A are established.

Square out lines for adding the cylinder. Step off the girth from plan as A-F as shown and the pattern is finished.

The other half is worked at the same time to save duplicating processes. Laps for riveting must be allowed extra.

Milwaukee Corrugating Company Entertains Foremen.

Once a year the department foremen of the Milwaukee Corrugating Company are the guests of the officers at one of the lakes that abound in Wisconsin, and everybody has a good time. President Kuehn and Secretary Luedke, however, always set the pace for fun and boyish frolic. The group picture shows Mr.



Outing of Foremen and Department Heads of Milwaukee Corrugating Company. President Kuehn Pitching and Secretary Luedke at Bat.

Kuehn and son the third from the right, Mr. Luedke lounging on the grass in the center.

The picture at the top shows Mr. Kuehn in the role of pitcher for a ball team, composed of the factory foremen. Secretary Luedke is at the bat for the office team.

"Louie" has a strong right arm, but in pursuance of the best baseball strategy, he refused to let August make a hit—instead, he made a hit himself by throwing a big league drop—or rather, a cross between an up-shoot and a drop. In other words, the ball which was pitched high into the air, described a circle and dropped exactly two feet in front of the home plate. Thus the batter, who had intended to shunt the sphere into the adjacent lake, was foiled, and he was permitted to walk, though he had every facility and a strong inclination to run.

Milwaukee Sheet Metal Contractors Hold Monthly Meeting.

The regular monthly meeting of the Master Sheet Metal Contractors' Association of Milwaukee, Wisconsin, was called to order by President Oscar A. Hoffmann, at 8:15 p. m., October 8, 1920, the register showing twenty-one members in attendance.

Paul L. Biersach, chairman of the Insurance Committee, made a very complete and interesting report of the action of the Insurance Committee regarding rates, service, etc., of three reliable mutual companies.

In response to the report, it was moved by William Hamman, seconded by Joseph Hollitz and unanimously passed, to enter into the Wisconsin Mutual Liability Company, collectively, for liability insurance.

The Secretary was also instructed to make another appeal in next month's notice to the various committees on Trade Development to turn over their reports and drawings immediately to John Bogenberger, chairman of the Trade Development Committee.

It was moved, seconded and passed that the Secretary be appointed a committee of one to act in connection with the National Committee on Labor.

Flint Association of Sheet Metal Contractors Prepares for State Convention.

On Tuesday evening, October 5th, the Flint Sheet Metal Contractors' Association held a special meeting to discuss convention matters with State Secretary F. E. Ederle. Committees were appointed as follows:

General Chairman, John Harlan.

Reception, Howard Hudson, J. J. Aubry and Earl Matthews.

Entertainment, J. J. Aubry, Fred Hossie and J. Ludke.

Hotel Reservations, William J. Schweitzer and J. J. Aubry.

Finance, William Schweitzer, Howard Hudson and Guy E. Shank.

Publicity, Fred Hossie, J. Ludke, William DeBruyn.

Many suggestions were made at this meeting concerning entertainment which indicates that Flint proposes to do just a little better in every way than it has ever been done before, which they say is the usual way everything is done in Flint.

Next week district meetings will be held as follows: Tuesday night, October 19th, in Niles; Thursday night, October 21st, in Chelsea. President Daly and Secretary Ederle will attend both of these meetings.

Dope Sheet

Written especially for AMERICAN ARTISAN AND HARDWARE RECORD, by J. C. Greenberg, Peoria, Illinois.

(Copyright 1920, by J. C. Greenberg.)

Say boys, I saw Doc yesterday.

You remember Doc. He is the guy that spent his time over books, and finally became the foreman of the shop.

Let me tell you what that bird is doing.

Just before I left his shop, he asked me to come over to his house, because he had the surprise of my life.

No, he wouldn't tell me a thing, so I came over.

While he and I were talking, Slim came in, and a few minutes later in waddles Fat Lasky with Jim Stewart.

In about ten minutes "Sloppy" Hicks shows up.

He was all lit up, and I asks him where is the wedding?

But Doc said, "Nothin' doin' on the weddin' stuff, this is a college, and all these birds are the students."

Oh, Boy! I sure was in a puzzled fix. I couldn't get head or tail out of it.

Pretty soon my lamps were opened, and it sure was an eye opener, believe me it was. Here is the stunt Doc pulled off.

These birds all worked for Doc, because he was their foreman. See?

Well, one day Doc spilled the beans something like this:

"Boys," he said to the gang, "this wasting of time ought to stop.

"You guys have good brains, but you do not know how to use 'em.

"Look at me. A year ago you all kidded me to your hearts' content, but I sawed wood all the time.

"This sawin' wood stunt got me to be your foreman because I knew my business.

"You birds are a pretty decent lot, and I'm goin' to set you right.

"I got a whole slew of books that ain't wore out yet, and I'm goin' to use 'em on you.

"Do you get me? From now on, every Wednesday and Saturday night this ranch is goin' to be busy learnin' things.

"You come over to the house on these nights, and we will get right down to brass tacks and learn sheet metal work.

"What you guys don't know would make a book bigger'n Seers Robuk's catalog.

"So I guess you are all due for a lot of brain exercise.

"It won't cost you a jitney. It's all free gratis—see?"

Well, the gang woke up, and got busy.

I stuck around and saw what they were doing. You'd be surprised how much these fellows knew.

They woke up to the fact that if a fellow wants to get the kale, he must know something.

This study stuff made better mechanics out of them, and their work was easier and better. Believe me—this is some combination.

About ten o'clock Edith came home, and disappeared in the kitchen.

In about fifteen minutes in she came smiling like a little kewpie. In her hands she had a tray full of sandwiches, and we had a lunch.

Doggone it, it was real life, and the gang were glad all over.

The "college" hours were over, the gang went home, and as I was getting ready to leave, Doc said:

"Stick around kid, I want to tell you a whole slew of good news."

"What is it?" I asks him.

So here is what he told me:

"You know, I bought the old shop, and I am a real boss now.

"I believe that this fall I will make a foreman out of Jim Stewart, and I will get after the big business.

"Jim is a married man, and as steady as a preacher. So I got an eye on him."

This sure tickled me all over.

Then Edith butts in and says:

"Yes we are going to have the best shop in this town, and I am going to business college to learn stenography and bookkeeping so I can be part of the business."

You see they had it doped out that by the time Jim is made foreman, she will be ready to take hold of the office work.

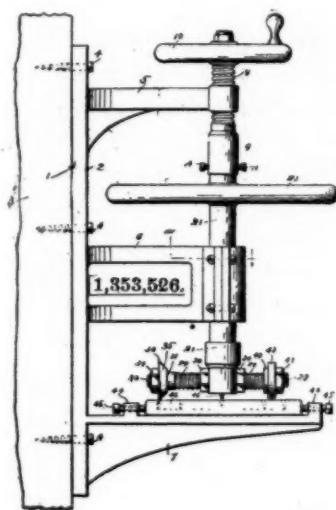
It just goes to show what a fellow can do if he makes up his mind to ditch the easy way, and make something of himself.

To Sheet Metal Contractors and Owners of Tin Shops:

Cut this page out and paste it on the bulletin board in your shop. This is the right dope for everyone concerned. It's just as good for you as it is for your mechanics. The sheet metal trade must, of course, support everyone who is dependent upon it. Profits are contingent upon not only efficient business methods but also upon intelligent craftsmanship. Knowledge and skill do not come merely from inspiration. They must be gained by practice and study. That is the reason why Mr. Greenberg places so much emphasis upon the value of text books and why he advises sheet metal workers to get a good set of books on sheet metal work.

Obtains Patent for Rotary Sheet Metal Cutter.

United States patent rights, under number 1,353,526, have been granted to Fred Frengle, Cotati, California, for a rotary sheet metal cutter described in the following:



A rotary sheet metal cutter, comprising a frame having a pair of spaced apart outstanding brackets disposed in the same vertical plane, a vertically disposed screw carried by the upper one of said brackets, a vertically disposed shaft rotatably and slidably carried by the other of said brackets, said screw and shaft being disposed in axial alinement with

each other and having one end pivotally connected together, a screw-threaded cross-bar carried by the free end of said shaft and having its end extending at substantially right angles from opposite sides of the shaft, said cross-bar movable longitudinally in either direction by rotating it relative to the shaft, nuts on said cross-bar engageable with opposite sides of the shaft for normally preventing movement thereof relative to said shaft, a rotary cutting disk on one end of the cross-bar, a roller on the other end thereof, a die underlying said cross-bar and cooperating therewith for cutting circular openings in sheet metal, and means for supporting said die.

Lima Sheet Metal Products Company Will Enlarge Plant.

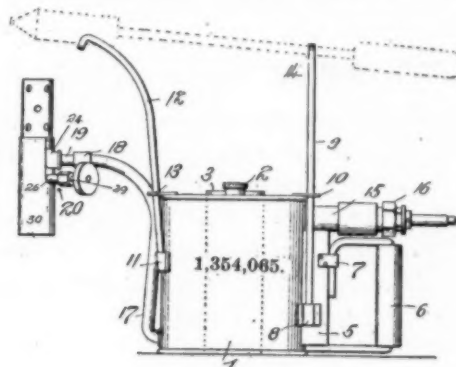
Present equipment will take care of requirements of the Lima Sheet Metal Products Company, 308 East Wayne Street, Lima, Ohio, for some time, the recent increase in capital stock serving only to provide funds for a new building to give more room for manufacturing operations in connection with fenders, hoods and sheet metal parts for trucks and automobiles. The company is producing the greater part of the small tools it requires.

Secures Patent for Tool Holder for Blow Torches.

Under number 1,354,065, United States patent rights have been secured by Willie Pruessing and Carl Pruessing, Syracuse, Nebraska, for a tool holder for blow torches described in the following:

A device of the character described comprising a torch including a tank, an air pipe leading into the same at one side, a gas pipe leading out of the tank at the opposite side and carried upward and bent forward, and an upright tubular burner to which the gas pipe delivers; plates secured upon the tank at front and rear and each having two openings, sockets secured to the

wall of the tank below said plates and in line with their respective openings, a rear support having downwardly diverging legs passing through the openings in the rear plate, astride the air pipe and into the sockets, its upper end having a seat for the shank of a tool, and a front support having downwardly diverging legs pass-



ing through the openings in the front plate, astride the gas pipe, and into the front sockets, its body above said plate being bent forward and its top provided with a seat disposed in rear of said burner and adapted to support the head of a tool.

Looks for AMERICAN ARTISAN as for Real Sunday Dinner.

TO AMERICAN ARTISAN AND HARDWARE RECORD:

I could not in any circumstances get along without my weekly ARTISAN. I look for it as we do for a real Sunday dinner.

Find my check enclosed to keep it coming.

Yours truly,

C. R. OBERHOLTZER.

Angola, Indiana, October 2, 1920.

Trade-Mark for Soldering Flux Is Registered.

United States Patent Office registration has been granted to Frank Chapman, Providence, Rhode Island, under number 128,295, for the trade-mark shown herewith. The particular description of goods to which it is applied is soldering flux. Application for registration was filed February 12, 1920.



Lost Without American Artisan.

TO AMERICAN ARTISAN AND HARDWARE RECORD:

Enclosed you will find check for \$8.50 for one year's subscription to AMERICAN ARTISAN and for Pattern Book for metal workers. Kindly send it at once and do not stop my paper, as I am lost without it.

Yours truly,

J. ALBERT MURPHY.

Flat River, Missouri, October 5, 1920.

Be it true or false, what is said about men often has as much influence upon their lives and especially upon their destinies, as what they do.—Victor Hugo.

Instructive Notes and Queries

The Service of This Information Bureau Is Free to Our Subscribers and They Are Urged to Use It Freely.

HOW TO COLOR SOFT SOLDER.

Quite frequently, the sheet metal worker finds it necessary to color soft solder, particularly for uniting two pieces of brass. In making the solution care should be taken to use either glass or earthenware dishes. The first item necessary is a saturated solution of sulphate of copper, which is commonly known as blue vitriol, in water. This solution is applied to the solder with a small brush or stick of wood. Touching it with an iron or steel wire it becomes coppered and by repeating the experiment the tint may be made darker.

If a yellow color is desired, mix two parts of sulphated copper with a saturated solution of sulphate of zinc. This is then applied to the coppered spot which is then rubbed with a zinc rod. The color may be further improved by the use of gilt powder and by buffing on a regular buffing wheel.

Explains Way To Cut Glass.

To cut bottles, shades, or other glass vessels neatly, heat a rod of iron to redness, and having filled your vessel the exact height you wish it to be cut, with oil of any kind, you proceed very gradually to dip the red hot iron into the oil, which, heating all along the surface, suddenly the glass chips and cracks right around, when you can lift off the upper portion clean by the surface of the oil.

This Makes a Good Solder for Aluminum.

The large use which is now being made of aluminum kitchen utensils results in frequent calls upon the sheet metal worker for soldering work on such utensils. A good solder for this purpose which can be applied with an ordinary soldering iron can be made from ninety-five parts of tin, five parts of bismuth, or ninety-seven parts of tin and three parts of bismuth; vaseline, benzine, paraffin, or similar oil products being used as a flux. Before soldering, the article should be thoroughly cleansed and the parts to be united heated enough so as to make the solder cling to them.

This Cement Will Mend Iron Pots and Pans.

Occasionally the sheet metal worker will be called upon to mend a break in an iron pot. So here is a cement that can be used to good purpose: place two parts of sulphur in an old iron pan, placing it over a fire until it begins to melt; then add one part of lead and stir well until properly mixed and thoroughly melted. The mixture is then poured out on an iron plate

or smooth stone and when cold broken into small pieces. The break is soldered, by placing a sufficient quantity of this compound upon the crack, in the same manner as two pieces of sheet metal are soldered. If it should happen that a small hole is burned through the pot a copper rivet may be driven in and the spot soldered over with the same kind of cement.

* * *

"Wetter's Superb" Gas Stove.

From A. E. Detwiler, 4012 Cottage Grove Avenue, Chicago, Illinois.

Can you tell me who manufactures Wetter's Superb gas stove?

Ans.—H. Wetter Manufacturing Company, Memphis, Tennessee.

Eaves Trough Hangers.

From C. L. Epps, 207 North Washington Street, Van Wert, Ohio.

Kindly advise who makes galvanized eaves trough hangers.

Ans.—Merchant and Evans Company, Cleveland, Ohio; Abbott Manufacturing Company, 4714 Central Avenue, Cleveland, Ohio; Berger Brothers Company, 227 Arch Avenue, Philadelphia, Pennsylvania; Clark-Smith Hardware Company, Peoria, Illinois; Friedley-Voshardt Company, 733 South Halsted Street, Chicago, Illinois; Whitaker-Glessner Company, Wheeling West Virginia; Milwaukee Corrugating Company, Milwaukee, Wisconsin; American Rolling Mill Company, Middletown, Ohio.

Tin Platers.

From Pioneer Metal and Plumbing Company, 630 East Grand Avenue, Des Moines, Iowa.

We would like to know where we can get retinned large ice cream vats.

Ans.—Thompson-Bremer and Company, 846-850 South Canal Street; C. Doering and Son, Incorporated, 1375 West Lake Street; both of Chicago, Illinois.

"Clark Jewel" Oil Stove.

From Otto Schuman, Wisconsin Rapids, Wisconsin.

Please give me the name of the manufacturer of the Clark Jewel oil stove.

Ans.—George M. Clark and Company, Division American Stove Company, 179 North Michigan Avenue, Chicago, Illinois.

Gas Burning, Steam Heating Plants.

From The Modern Way Furnace Company, Fort Wayne, Indiana.

Will you kindly advise us where we may purchase small gas burning steam heating plants.

Ans.—Standard Heating and Radiator Company, 220 Penn Avenue, Pittsburgh, Pennsylvania.

"Smith" Hot Water Heaters.

From John C. Distler, Mishawaka, Indiana.

Kindly advise who manufactures the Smith hot water heaters for furnaces.

Ans.—H. B. Smith Company, Westfield, Massachusetts.

Illustrations of New Patents

Watch This Page. Keep Yourself Informed Concerning Improved Devices Which May Save Labor in Your Shop or Add Another Source of Income to Your Retail Store.

1,352,562. Flytrap. Julia Tokash, McDowell, W. Va. Filed Nov. 25, 1919.

1,352,596. Mud-Guard Brace. Walter R. Green, Chicago, Ill. Filed July 21, 1917.

1,352,663. Fishpole Support. Charles A. D. Hafner, Des Moines, Iowa. Filed July 8, 1919.

1,352,667. Ash Sifter. John A. Kessel, Buffalo, N. Y. Filed March 6, 1917.

1,352,729. Wrench. Samuel McD. Robertson and Frederick C. Dyer, Toronto, Ontario, Canada. Filed October 13, 1919.

1,352,776. Separable Attachment Device. Reuben B. Benjamin, Chicago, Ill., assignor to Benjamin Electric Manufacturing Company, Chicago, Ill., a Corporation of Illinois. Filed April 1, 1915.

1,352,782. Hinge or Hanger. James G. Brooks, Rushville, Nebr. Filed June 4, 1920.

1,352,819. Door Lock. Wellington Lougheed, Wyandotte, Mich., assignor of one-half to Jacob B. Sparks, Royal Oak, Mich. Filed August 11, 1919.

1,352,824. Combination Boiler. Elizabeth M. Martin, Sterling, Ill. Filed April 18, 1917.

1,352,825. Boring Tool. William C. Meredith and William C. Willis, Atlanta, Ga., assignors of one-third to R. H. White, Atlanta, Ga. Filed December 19, 1916.

1,352,830. Adjustable Ladder. Edward C. Obermeyer, Nessen City, Mich. Filed October 4, 1919.

1,352,835. Toy Vehicle. Henry G. Runne, Rochester, N. Y., assignor, by mesne assignments, of one-

half to Charles L. Townsend, Rochester, N. Y. Filed January 24, 1919.

1,352,843. Ventilator Attachment. Frank C. Smith, Minneapolis, Minn. Filed January 25, 1917.

1,352,888. Knife Sharpener. Stephen H. Gallagher, Syracuse, N. Y. Filed September 16, 1919.

1,352,914. Shelf for Ladders. Sidney Plasclasco-vities, Denver, Colo. Filed August 30, 1918.

1,352,921. Spade or Shovel. John A. Southwell, Scranton, Pa. Filed April 24, 1919.

1,352,951. Chuck. Charles E. Gilbert, North Chichester, N. H. Filed May 29, 1919.

1,352,994. Clothes Line Reel. Jacob Sardo, Johnstown, Pa. Filed February 14, 1920.

1,353,014. Trowel. Earnest J. Ashby, Henderson, Ky. Filed March 19, 1919.

1,353,043. Tool Handle. John E. Hultberg, Warren, Pa. Filed December 12, 1918. Serial No. 266,469. Renewed April 10, 1920.

1,353,056. Jelly Strainer. Charles S. Ludwig, Trenton, N. J. Filed March 20, 1920.

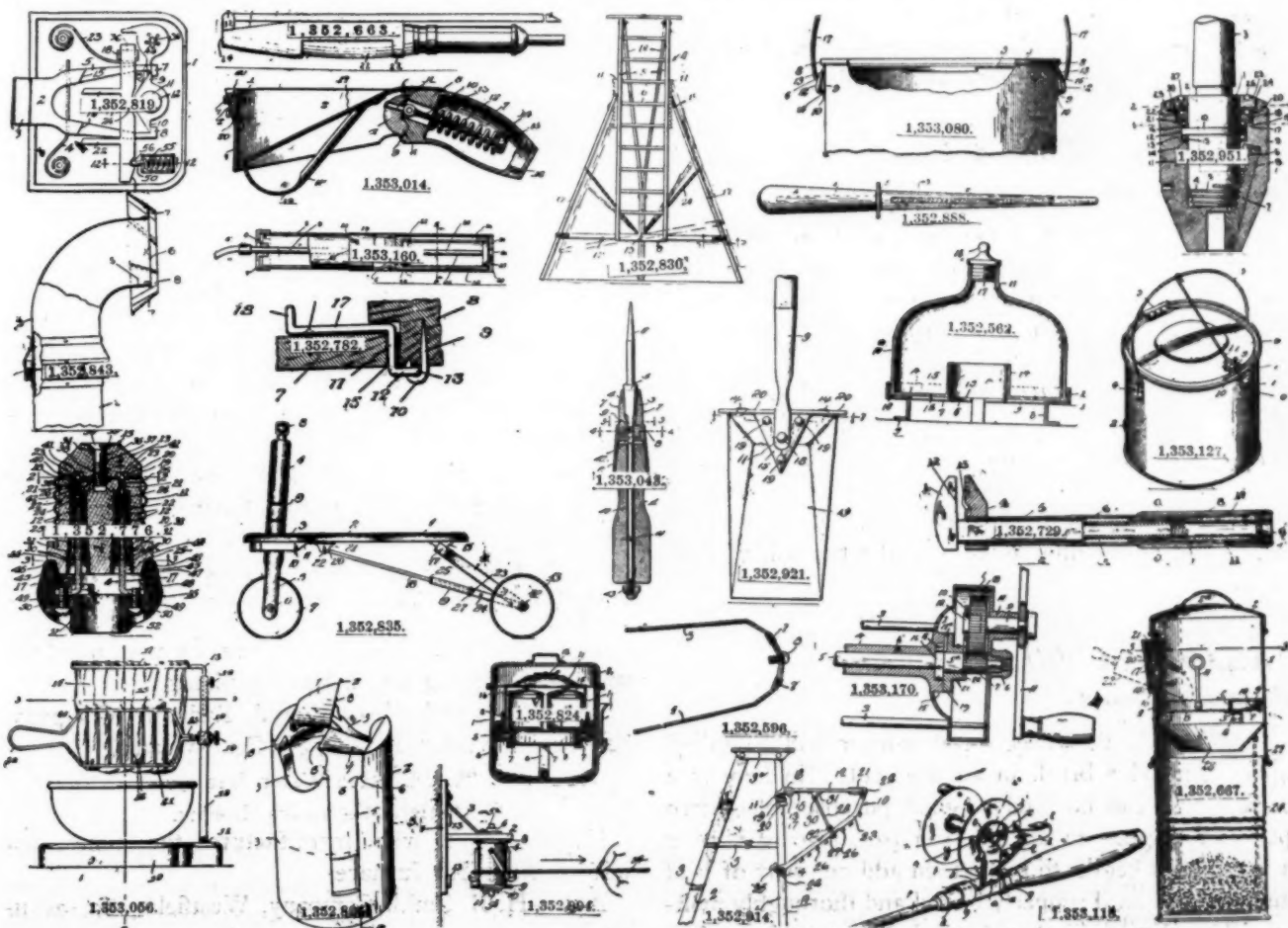
1,353,080. Bail-Ear Fastening for Cans. Harry K. Smith, Hamilton, Md. Filed March 7, 1919.

1,353,113. Fishing Reel. Clarence L. Deets, Portland, Ore. Filed January 20, 1920.

1,353,127. Garbage Can. Guy W. Ferdon, Creskill, N. J. Filed January 26, 1920.

1,353,160. Rotary Safety Razor. Andrew C. Hanson, Racine, Wis. Filed November 12, 1919.

1,353,170. Fishing Reel. Fred McKimmy, Beaver Dam, Ohio. Filed February 11, 1920.



Weekly Report of the Markets

General Conditions in the Steel Industry. Review of Prices and Tendencies in Sheet Metals, Pig Iron, etc.

SITUATION SHOWS LITTLE BUYING IN EXPECTATION OF DROP.

The situation in the metal market, both in Chicago and the other principal centers of manufacture and distribution of metal products, has not changed to any appreciable degree during the week just past. Some concerns report that cancellations have been received but no great importance is attached to these as they are comparatively few in number and represent what may be properly classed as the actions of an insignificant number of business concerns which have little or no regard for incurred obligations, and in the long run, it is quite doubtful as to whether these concerns will actually gain what they expect to save by cancelling their orders now and buying elsewhere on the new lower price basis.

So far as buying of iron and steel and other metal products is concerned, there is a decided falling off to be noted. But this falling off has not been accompanied by a corresponding decrease in prices, although in some instances quotations have been reduced. It is only natural that under the circumstances like the present, purchasing should be done on a hand-to-mouth basis, and when everything is considered such a policy is bound to result in benefit both to the wholesaler and retailer on one side and to the manufacturer on the other, as it will cause stocks in general to arrive at a point where when any deep cut in prices does come—if a sudden drop after all is to happen—no one will get seriously hurt.

The Steel Corporation's statement of unfilled orders as of September 30, shows a decrease of 430,234 tons during the month, the second time that a decrease is noted since May 31, 1919. The peak in unfilled orders had been reached July 31, 1920, with a total of 11,118,468 tons of unfilled orders on the corporation's books.

All steel companies—both independents and Corporation interests, manufactured much more steel than they sold during September and practically all of them shipped more than they produced. Still, the leading independent mills are reported to have business enough to carry them through the year and are, therefore, not showing any tendency toward reducing prices, and it is believed, generally speaking, that the real test of the market will not come until around January 1, 1921.

Slight reductions have been made in copper, lead, and tin.

The statement of Secretary of the Treasury Houston, that re-establishment of the War Finance Corporation was not feasible, is likely to have considerable influence on the market in many lines entirely removed from agricultural products, owing to the fact that price reductions on farm products, particularly corn, cotton and wheat, are almost certain to be followed by corresponding reductions in other raw materials.

It was urged by wheat and cotton interests that the re-establishment of the War Finance Corporation was the only way to avert ruin, as otherwise exports of these products could not be financed.

Secretary Houston's reply was that the Government was not justified in using its money—paid by people in all sections of the United States—for the purpose of bolstering up certain sections, and that the proper way to finance these exports was to obtain financial support from private and national banks.

He said that for the Government to engage in such a proposition now would create a worse condition than now prevails, as it would entail the borrowing at high rates of interest from the public, thus making the money market still tighter than it is at the present time.

Steel.

There has been no marked change in the situation so far as steel bars, shapes, and plates are concerned, although occasional reports are heard of orders placed for various amounts at reduced prices, such as a verified sale of several thousand tons of plates on the basis of three cents, Pittsburgh. It is also reported that the same buyer has closed negotiations for eight thousand tons paying 2.65 cents, Pittsburgh, for plates, 2.45 for shapes, and 2.35 cents for bars. On the other hand, the United States Steel Corporation reports a sale of 7,500 tons at Chicago to another car building company at its regular prices.

Copper.

Some of the larger producers have made an attempt to undersell dealers in the outside market in order to secure business, but it is reported that not enough attractive business was secured, even though a considerable flurry in the copper market was caused by this attempt. It appears to be safe to assume that the present unsatisfactory condition is only temporary, but at this time it is not possible to determine how long this condition will last. New lists showing a reduction in prices have been issued by the leading brass and copper products manufacturers, the reductions running from one-half a cent a pound on low brass to two cents a pound on seamless copper tubing.

Chicago jobbers' prices on sheet copper have been reduced two cents a pound, the new quotation being 27.50 cents mill base.

Tin.

The tin market is decidedly weak, and prices today are lower than they have been for more than three and one-half years, a contributing cause to this situation being the heavy drop in silver. New York quotations which can only be classed as nominal are around 42 cents a pound for Straits. The general idea is that quite a lot of buying would be done, for consumption rather than for speculation at 40 cents,

but at that the consumer may miss it and may have to pay more than that if he waits too long.

Chicago quotations are $2\frac{1}{4}$ cents a pound lower than last week, the new prices being $44\frac{1}{2}$ cents for pig tin and $46\frac{1}{2}$ for bar tin.

Lead.

While the demand for lead is light, supplies also are light, and there is no considerable surplus so that there is no pressure on the market, and the New York price for prompt delivery remains steady at 7.75 cents per pound. So far as future deliveries are concerned, there is a question as to whether any contracts are being placed at this time at flat prices. Such business as is being done appears to be limited to a sliding scale, or average contracts.

Chicago quotations are twenty-five cents less per hundred pounds from last week, the new prices being \$8.00 for American pig, and \$8.50 for bar.

Zinc.

The zinc market has been just as dull this week as it was last week, although there has been no further price reduction. Prompt shipments are offered at 7.35 to 7.40 cents St. Louis and bids of 7.30 St. Louis have been declined. While business is slow, there is no desire shown by producers to sell future deliveries on the current level prices.

Chicago quotations remain stationary at \$8.20 per 100 pounds for zinc in slabs.

Solder.

There is no change to be noted in the Chicago quotations on bar solder, prices remaining as follows: Warranted, 50-50, \$30.50; Commercial, 45-55, \$28.50; and Plumbers', \$25.50. All per 100 pounds.

Sheets.

Galvanized sheets are short both in the Chicago and New York market, and there is any number of cases where buyers have offered as high as 75 per cent over the ruling market figures in order to get immediate delivery. If building operations show any revival it is difficult to see at this time where sufficient material in the way of galvanized sheets can be secured to fill the demand. Flat sheets are in practically the same condition, even though the mills have been turning out considerable quantities, and it is reported that their capacity is booked so nearly full that there is very little free material to be had.

The Chicago market on sheets is quotable at \$8.88 to \$9.38 for galvanized; \$7.13 to \$7.63 for black; \$5.88 to \$6.38 for blue annealed sheets; all per 100 pounds.

New List Price on Wringers.

The Lovell Manufacturing Company has published new wholesale price lists on wringers and kindred items, effective as of October 8. These new prices represent considerable reductions, but there is no change in discount nor in freight allowances.

Tin Plate.

Tin plate prices remain at the old figures even though distributor's stocks are very limited. It is

hoped, however, that as a result of better transportation conditions, the mills which have been putting their greatest efforts on direct business with can manufacturers will soon be able to make better deliveries to wholesalers. Until that time comes, there will be little or no reason to look for easier prices, either from manufacturers or from wholesale distributors. The standard base price for coke tin is \$11.00 per base box Pittsburgh, with roofing tines 20x28 inch 40 pound IC \$28.00 Pittsburgh.

In the case of both the leading interest and the independents about 80 per cent of the mills are in operation, the mills in operation showing good tonnage outputs per mill. In the case of the leading interest the restriction of operation is entirely by way of shortage of steel, while with the independents some are short of steel and some are short of orders.

The leading interest will probably open its order books some time next month for the new delivery period, the first half in the case of can makers and other manufacturing consumers and the first quarter in the case of jobbers. There is no definite indication that there will be any advance over the \$7 price that this interest has charged for three successive half years, but there is a possibility of a slight advance, say 25 cents a box. The matter has not been officially decided and until it is one cannot say positively that there will be no change from the \$7 figure. Independents have exhibited some hope that they would be able to get \$9, or at least much more than \$7, but such hopes are probably less strong now than they were a month ago.

Old Metals.

Wholesale quotations in the Chicago district which should be considered as nominal are as follows: old steel axles \$33.00 to \$34.00; old iron axles, \$40.00 to \$41.00; steel springs, \$23.50 to \$24.00; No. 1 wrought iron \$20.00 to \$21.00; No. 1 cast, \$30.50 to \$31.00; all per net tons. Prices for non-ferrous metals are quoted as follows, per pound: Light copper, $11\frac{1}{4}$ cents; light brass, $6\frac{3}{4}$ cents; lead, $5\frac{3}{4}$ cents; zinc, $4\frac{1}{4}$ cents; cast aluminum, $12\frac{1}{2}$ cents.

Pig Iron.

The foundry pig iron market appears to be fairly well established on the basis of \$47.00 Valley, which represents a decline of \$3.00 from the level established in August. It is quite reasonable to suppose, however, that this figure will not stand for any considerable length of time, and although most of the business placed is in small lots for early shipment it may be said that there is an improvement in the pig iron situation. Foundries for most part are busy and continue to find it necessary to purchase iron to carry them through the remainder of this year. But very little interest is being shown either by the buyers or by sellers, so far as delivery is concerned for the first half of 1921. Furnace operators appear to assume the attitude that they have plenty to do for several months in keeping up shipments on existing contracts, and that 1921 will have to take care of itself.

Chicago prices on pig iron are quoted as follows: Northern No. 2, \$46.70; Malleable, \$46.70; Southern No. 2, \$48.67; Lake Superior Charcoal, \$58.50.

BLACKING, STOVE, (See Polish)

BLADES, SAW.

Butchers'.

Standard, $\frac{1}{4}$ & $1\frac{1}{4}$ -in. Nets
Clock Spring.....
Star

Hack.

Atkins5%
Star

Wood.

Disston
No. 6 66 26
Atkins
No. 2 14 18
..... \$3 25 \$6 50 \$4 75

BLOCKS.

Wooden20%
Patent20%

BOARDS.

Stove.

Wabash Crystal.....Net Prices
Wabash Art Inlay....
Wabash Embossed....

Wash.

No. 760, Banner Globe,
(single)per doz. \$5 25
No. 652, Banner Globe,
(single)per doz. \$ 75
No. 801, Brass King per doz. \$ 25
No. 860, Single-Plain
Pump \$ 25

BOLTS.

Carriage, Machine, etc.

Carriage, cut thread, $\frac{1}{4}$ x6
and sizes smaller and
shorter40 & 10%
Carriage, sizes larger and
longer than $\frac{1}{4}$ x6.....+15%
Machine, $\frac{1}{4}$ x4 and sizes
smaller and shorter.....50%
Machine, sizes larger and
longer than $\frac{1}{4}$ x4.....40%
Stove50-10%
Tire40-5%

Mortise, Door.

Gem, iron.....5%
Gem, bronze plated.....5%

Barrel.

CastNets
Wrought
Wrought, bronzed

Finish.

Wrought

Spring.

Wrought
Wrought, heavy.....

Square.

Wrought

BORERS.

Angular.

Miller's Falls.....per doz. \$33 00
Sill borers, No. 51 34 00
52 39 50

Bung.

Enterprise Mfg. Co.'s No. 1.....10%
" " " No. 2.....10%

BOXES.

Mall, No. 2 4 10
Per doz.....\$18 00 23 00 29 00

Mitre.

Stanley's.....Net Prices
Stearns, No. 2.....per doz. \$48 00

BRACES.

Fray's Genuine Spofford's
" " " 20&10%
Fray's No. 63\$7 50
" No. 610 \$ 8 00

BRACKETS.

Hay Rack.

Wenzelmann's No. 1, per
doz. sets.....\$13 00
Wenzelmann's No. 2, per
doz. sets..... 19 20

Shelf.

Wrought Steel.....40%

Well.

Oak, Wrought Iron Riveted
Top Ears.....per doz. \$8 00

BURRS, RIVETING.

Copper Burrs only...25% above list
Tinner's Iron Burrs only.....30%

BUTTS.

Cast Iron.....7 $\frac{1}{2}$ %
Wrought Brass (New List) Plus 5%
Wrought Steel, Bright.....40%
Wrought Steel, Japanned,
.....Net Prices

CALIPERS.

DoubleNets
Inside and Outside.....
Wing

CALKS

Logger's Boot.

(Lufkin R. Co.'s), per M.....\$7 00

Toe.

Blunt and medium, 1 prong,
per 100 lbs.....\$6 20
Sharp, 1 prong, per 100 lbs \$ 7 00

CANS.

Milk.

Ohio,
Gals..... 5 8 10
Each\$3 65 \$4 45 \$4 70
Gem,
Gals..... 5 8 10
Each\$3 85 \$4 95 \$5 20
Jersey,
Gals..... 5 8 10
Each\$4 15 \$5 60 \$5 90
Holstein,
Gals..... 5 8 10
Each\$4 15 \$5 60 \$5 90

CAN OPENERS.

See Openers.

CAPS, GUN.

See Ammunition.

CARPET STRETCHERS.

See Stretchers.

CARRIERS.

Hay.

Diamond, Regular...each, Nets
Diamond, Sling.....

CARTRIDGES.

See Ammunition.

CASTERS.

Standard—Ball Bearing,50&10%
Bed40%
Common Plate.
Brass Wheel.....15%
Iron and porcelain wheels,
new list50%
Philadelphia Plate, new
list50%
Martin's40%

CATCHERS, GRASS.

No. 160S, per doz.....\$12 25
No. 165S, " 14 01

CEMENT, FURNACE.

American Seal, 5 lb. cans, net \$0 45
" " 10 lb. cans, " 30
" " 25 lb. cans, " 1 87
Pecora, 5 lb. cans..... 45
" 10 lb. cans..... 90
" 25 lb. cans..... 1 87

CHAIN AND CHAINS.

Breast Chains.

With Slide.....doz. pairs, \$ 5 50
Without Slide..... 5 06
Doublelack..... 9 35
With Covert Snaps " 6 38

Picture Chains.

Light Brass, 3 ft., per doz. \$1 25
Heavy Brass, 3 ft., " 1 75

Sash Chain.

(Morton's)

Steel, per 100 ft.
0.....\$2 50
2..... 3 10
1..... 3 40

Champion Metal.

0R..... 5 40
2R..... 5 60
1R..... 7 75

Champion Metal.—Extra Heavy.

1H..... 9 50

Cable Sash Chains.

Steel.....List Net Plus 15%

CHALK, CARPENTERS'.

Blueper gro. \$1 40
Red 1 40
White 1 35
Common White School
Crayon 25c

CHIMNEY TOPS.

In bags.....per bag \$1 70

CHECKS, DOOR.

Corbin.....Net List
Russwin..... 20%

CHECKS, DOOR.

Iwan's Volcano.....35%

CHISELS.

Box.

Inches..... 12 14
Round, per doz.....\$5 25 5 75
Flat, per doz..... 7 25 8 25

Cold.

Good quality, $\frac{1}{2}$ in. and
largerNets
Smaller size, per doz.....Nets

Socket, Firmer.

Ohio.....Price on Application

Socket, Framing.

Ohio.....Price on Application

Tanged, Firmer.—Barton's

With handles.....Net list

Choppers, See Cutters, Meat.

CHUCKS, DRILL.

Goodell's, for Goodell's Screw
DriversList less 35-40%
Yankee, for Yankee Screw
Drivers \$5 00

CHURNS.

Anti-Bent Wood,
Gal..... 5 7 10
Each\$3 90 4 60 4 85
Belle, Barrel65&7 $\frac{1}{2}$ %
Common Dash,
Gal..... 5 7
Per doz. 17 00 19 00

CLAMPS.

Adjustable.

Martin's30%
No. 63, Screw.....30%

Cabinet.

Screw20%

Carpenters'.

Steel Bar...List price plus 25%

Carriage Makers'.

2 $\frac{1}{2}$ "per doz. \$7 00
5" 14 00
8" 28 00
12" 46 00

Quilt Frame.

No. 30 Ball and Socket,
2 $\frac{1}{4}$ " head.....per gross \$13 00
No. 50, Ball and Socket,
3 $\frac{1}{4}$ " head.....per gross 14 50

Hose.

Sherman's, brass, $\frac{1}{4}$ ", per
doz. 48c
Double, brass, $\frac{1}{4}$ -in., per
doz. 1 20

Saw Fillers.

Wentworth's, No. 1, \$12.50; No.
2, \$18.25; No. 3, \$16.25.

CLAWS, TACK.

Wood hdl. No. 10.....per doz. \$0 85
Forged steel, wood hdl. " 1 75
Solid steel..... 2 40
Giant 50

CLEANERS.

Drain.

Iwan's Adjustable.....25%
Iwan's Stationary.....30%

Pot.

Wireper doz. \$0 75

Side-Walk.

Steel.....per doz., Net prices

CLEAVERS.

Family.

Beatty's, 7 8 9 10
Inch.....
Per doz. \$27 00 29 00 33 00 36 00

CLEAVISES.

Malleable10c lb.

CLIPPERS.

Bolt\$2 25&6 00

CLIPS.

Axle65&5%

Damper.

Standardper doz. 70c
Troy 80c

Hame.

" 50c

CLOTH.

Emery.

StarNew Prices
B. & A.....

Hardware Wire—

Full rolls (100 ft.) application
12 Mesh, galvanized " "
14 " " " "
16 " " " "
18 " " " "

Screen Wire. Prices on application
12 mesh, painted, per
100 sq. ft.....

COLLARS, STOVE PIPE.

Lacquered.

Inches 5 6 7
Fancy pattern,
per doz..... 80c 85c \$1 15

COMPASSES.

Carpenters'15%

COPPER—See Metals.

COPPERS—Soldering.

Pointed Roofing.
3 lb. and heavier.....per lb. 37c
2 lb. 38c
2 $\frac{1}{2}$ lb. 37c
1 $\frac{1}{2}$ lb. 40c
1 lb. 43c

CORD.

Picture.

White Wire.....60&5%

Sash.

Sampson Spot, No. 7, per
doz.\$24 50
Sampson Spot, No. 7, per
doz.\$29 40

CORKSCREWS.

Walker's30%
Williamson's Regular.....35&11%
Williamson's Forged Worm.....40%

COTTERS, SPRING.

All sizes.....37 $\frac{1}{4}$ %

COUPLINGS, HOSE.

Brassper doz. \$2 35

COVERS, WAGON.—See Tents.

CRADLES, GRAIN.

Morgan's Grapevine per doz. \$45 00

CRAYONS—See Chalk.			ELBOWS—Conductor Pipe.			Wood Palls.			HANGERS.		
CUTTERS.			Galvanized Steel, Tin and Terne, Round Corrugated.			Frazer's, 15lb \$1.00; 25lb \$1.50 each.			Barn Door.		
Glass.			Size. Doz.			Hub Lightning, 15lb 90c; 25lb \$1.21 each.			U. S. Roller Bearing.....12½%		
Woodward	40%		2-inch						Matchless		
Meat.			3-inch			Tin Cans.			Warehouse Tandem, No. 44		
Enterprise—Nos. 5	10	12	4-inch			Frazer's			Conductor P.		
Each.....	\$2 50	\$4 25	5-inch			1½ lb. per doz.....\$1 75			Iwan's Perfection.....45%		
Nos. 22	32		6-inch			3 lb. per doz.....2 25			Eave Trough.		
"	6 50	8 50							All sizes, 5" or smaller.		
Pipe.			Out of market at present time.			GRINDSTONES.		 per gross \$3 80 Net		
Saunders', No. 1	2	3	Domestic, lb.			Inches.. 7 8 10 12			All sizes, larger than 5"..... per gross, 5 00 "		
Each	\$1 85	2 75	EYES.			Per doz. 20 50 21 75 26 25 30 50			Garage Door.		
Slaw and Kraut.			Bright Wire Screw—See Woods, B. W.			Loose.			Right Angle		
4-knife Kraut.....	Per doz.		Drifting Pick			Per ton.....Price on application			Sliding Folding		
3-knife Kraut,			Hooks and Eyes—			Mounted.			Receding		
8x27 in.	13 00	18 00	Brass, 1½" No. 60, per gross			Ball Bearing.. 1 2 3			Parlor Door.		
1-knife Slaw	2 50		Iron, 1½" No. 50, per gross 1 60			Each			Acme		
2-knife Slaw	3 00					GUN WADS.			Ives' Improved....		
Washer	11 00					(See Ammunition)			Lane's Standard....		
DAMPERS, STOVE PIPE.			FASTENERS, STORM SASH.						Lane's New Model ..		
Diamond			Shroeder's.....per doz. \$1 50						Le Roy Noiseless....		
All sizes.....	40% from New List		Sensible.....						Richards		
DIES AND STOCKS			FILES AND RASPS.						Advance		
Discount.....	New List		Delta						HASPE.		
DIGGERS			Delta						Hinge, Wrought, ..Add 50% to list		
Post Hole			Swiss.....						With Staples—See Staples.		
Eureka.....	per doz. \$14 50		Utility.....						HATCHETS.		
Iwan's Split Handle (Eureka)			Nicholson's—						Crescent		
4-ft. Handle..per doz.	15 00		American						Cast Claw.....per doz. \$1 50 @ 1 85		
7-ft. " ..per doz.	20 00		Arcade						Cast Shingling " 1 50 @ 1 85		
Iwan's Perfection (Atlas)			Black Diamond.....						Germantown		
per doz	16 50		Eagle						HAY KNIVES.		
Iwan's Hercules pattern			Great Western.....						See Knives.		
per doz	18 00		Kearney & Foot.....						HAY RACK BRACKETS.		
See also Augers—Post Hole.			McClellan						Wenzleman's No. 1		
Dividers, Wing	25%		Nicholson brand.....					 per doz. sets, \$18 00		
DOOR CHECKS—See Checks			J. Barton Smith.....						Wenzleman's No. 2		
DOORS, SCREEN			X-F Swiss Pattern....Net List					 per doz. sets, 19 30		
¾-in. 4-panel, painted Net Prices			Simonds'						HINGES.		
1½-in. 4-panel, painted "			Disston's						Blind.		
1½-in. 3-panel, natural pine, fancy			Heller's						Clark's Gravity		
DOOR HANGERS—See Hangers			FIRE POTS.						No. 1.....per doz. sets, \$2 25		
DRILLS			Clayton & Lambert's—						No. 3.....		
Blacksmiths' Twist, (New List)			each						1 2 3		
Breast.			Gate City.....						Hgs & Lch, dz. \$5 50 7 00 9 75		
Millers Falls No. 12, each	\$46 00		Gern						Hinges only " 4 75 5 50 8 00		
" 112, " 26 00			FORKS.						Latches only. 1 90 1 90		
Hand.			Barley.						Screen Door.		
Goodell's Automatic.			Steel, new list.....						Cast Iron		
Nos. 01 03			Hay.						Steel		
Per doz. 12 00 14 40			2-tine.....						Spring.		
Goodell's Single Gear, per doz.	15 75		3- "						Chicago		
Goodell-Pratt No. 4½ per doz. list, less.....	30%		4- "						Add 12½% to list		
Goodell-Pratt No. 379 per doz. list, less.....	30%		Manure.						Columbia Dbl. Acting,		
Reciprocating.			4-tine.....					 40&10&50		
Goodell's.....	per doz. 26 00		FREEZERS—ICE CREAM						Gem		
DRIVERS, SCREW			White Mountain 1-quart....						Ideal Detachable, per gro. \$11 00		
Standard	Nets		" " 2 "						Matchless		
Lock Ferrule			" " 4 "						New Idea		
Champion			" " 6 "						Oxford		
Champion Pattern			Arctic.....						Wrought Iron.		
Clark's Interchangeable ..			"						New Lists		
Edison			"						Light Strap Hinges.....		
Reed's Lightning			"						Heavy Strap Hinges...20&7½%		
Goodell's Spiral			"						Light T Hinges...List plus 45%		
Yankee Ratchet			"						Heavy T Hinges...List plus 45%		
" Spiral			"						Extra Heavy T Hinges. 15&5%		
EAVES, TROUGH			GAUGES.						Screw Hook and Strap.		
50% off Standard List.			Cream Pall.						6 to 12 in....per 100 lbs. \$7 75		
ELBOWS—Stove Pipe			Fairmount.....						14 to 20 in.		
1-piece Corrugated, Uniform			Marking, Mortise, etc.....						" " 7 50		
Doz.			GLUE.						22 to 36 in.		
5-inch	\$2 25		Bulk.						Screw Hook and Eye.		
8-inch	2 30		B Amber.....						¾ in.....per doz. pair \$2 50		
7-inch	2 60		A White.....						¾ in.....		
Uniform, Collar Adjustable			H. S. Amber.....						½ in.....		
Doz.			GINLETS.						HOES.		
5-inch	\$2 65		Discount						Garden		
6-inch	2 70		Bulk.						Grub.		
7-inch	3 00		Liquid.						Extra		
GREASE, AXLE.			Army & Navy.....						Hazel.....		
Wood Boxes.			Le Page's—						per doz. New prices		
Frazer's	per gro. \$13 00		List "A".....						Ladies' and Boys'		
Hub Lightning	7 50		List "B".....						Mortar		
			List "C".....						Planter's Eye.....		
			HOOKS.						Weed		
			Awning, No. 60.....						Belts.		
			per gro. 50%						Brown's		
									Jones'		
									Bench.		
									See Stops, Bench.		

Box. Inch..... 5 7 10 12 Per doz. \$2 50 2 75 3 25 3 85 Brush. Common Axe Handle, per doz.\$22 00 Chain. Inch. 1/4 5/16 3/8 7/16 1/2 Pr 100 \$7 60-8 10 9 75 11 50 13 60 Clothes Line. Japannedper doz. 48c@1 40 Galvanized..... " 75c@2 50 Coat and Hat. Common Wire per gro. 1 25-1 65 Conductor. Iwan's Tinned Sickle.....List Corn. Common, riveted, painted redper doz. Nets Little Giant..... " " Gate. See Goods, Bright Wire. Grass. Common Nos. 1 3 5 7 Per Doz.\$4 50 3 50 3 75 3 25 Hammock. With plate.....per doz. 1 10 With screw..... " 1 00 Lambrequin, or Drapery, per gro.\$3 00 Picture50%&50&10% Potato and ManureNets Screw. Brass70% (See Goods, Bright Wire.) Seat Spring.....per lb. 5 1/2c HOSE, GARDEN. Guaranteed 3 ply 1/2 inch.....16 c " 4 ply 3/4 inch.....18 1/2c " 5 ply 1/2 inch.....13 1/2c COTTON COV. RUBBER HOSE. High Grade Apache 1" guar. press. 400 lbs.....48c HUSKERS. Boss. Nos. B E Per doz.New Nets No. 59.....per doz. New Nets IRON, FIG. See Metals.—First column. IRONS. Curling. C.....per doz. \$4 40 B..... " 50 A..... " 58 Princess..... " 1 25 Thelma..... " 1 25 Pinking..... " 1 00 Plane. Wood Bench...Add 10% to list Sad. Charcoalper doz. \$11 00 Common, polished, per 100 lbs. 7 75 No. 70 Asbestos.....\$1 50 net No. 100..... " 1 75 net Common, nickel plated... 8 25 Mrs. Pott's, No. 50 J, Enterprise, per set Nets No. 55 J, " " " " No. 50 T, " " " " No. 55 T, " " " " Tailors' Sad.....per lb. " Tailors' Goose.....per lb. " Ideal. 6 lb. Household\$3 50 9 lb. Dressmakers' 4 25 14 lb. Tailors' Goose..... 5 50 Tuyere. Single Duck Nest..per doz. \$5 25 Double Duck Nest.. " 6 25 Sutton.....each 2 60 JACKS. Locomotive30% Wagon. Richard's No. 1..per doz. \$15 50 Miller 30 00 Oliver, Nos. 0 00 Each\$0 60 \$0 80 Standard, Nos. 1 2 Each\$0 60 \$1 00 R-W Big Lift.....40% Tiger.....40%	KETTLES. Brass15% Cauldron40&5% Copperper lb. 27 Maslin40&10% Sugar50% KNIVES. Beet Topping. Clyde, 9-in. Schluter Blade, doz.\$3 85 California 2 40 Butcher, Per doz. Beechwood Handles, 6" blade\$4 00 Beechwood Handles, 7" blade 4 65 Beechwood Handles, 8" blade 5 65 Cooper's Hoop.....15% Corn. Clipperper doz. \$1 75 Disston's " 2 75 Earle's " 3 00 Woodford " 2 25 Drawing. StandardList&5% Adjustable15% Barton's Carpenters'.....15% Hay. Iwan's Solid Socket..doz. \$13 00 Heath's " 13 00 Iwan's, Sickle Edge.. " 18 00 Iwan's Imp'd Serrated " 18 00 Hedge. Challengeper doz. \$6 00 Disston's " 3 75 Mincing. Common, Single .. " 40 Common, Double.. " 90 Streeter, 4-blade.. " 1 30 Streeter, 6-blade.. " 2 00 Putty. Commonper doz. \$0 75@1 50 Lander's ... " 1 75@2 50 Scraping. Beech Handle..... 90@1 10 Lander's 5 50@6 50 KNOB. Doors. Mineralper doz. \$1 80 Porcelain " 1 90 Jet " 2 00 LADDERS. Common Long. Per ft.17c@23c Extension. Per ft. 22 to 28 Step. Common, per ft.....23c Common, with Shelf, add 10c. IXL34c Challenge, 6 to 9 ft.....55c 10 to 16 ft.....60c LANterns. Bull's Eye Police. 3-in. Flash Light..per doz. \$13 00 LEADERS, CATTLE. Nos. 51 52 Per doz.\$1 35 1 45 LEATHER, LACE. Rawhide 1/2".....100 ft. \$2 00 1/4"..... " 4 40 LEATHERS, PUMP. Valve and Plunger.....10% LIFTERS. Stove Cover. Coppered ...per gro. \$3 25@5 50 Alaska 8 00 Alaska " 10 00 Transom. Payson's55% LINES. Chalk. Twisted in 20-ft. hanks. Nos. 4 6 7 8 9 Gro.....Prices on Application Twisted in 50-ft. balls. Nos. 1 3 3 4 Per doz.....Prices on Application Braided in 20-ft. hanks. Nos. 0 1 2 3 Per doz.....Prices on Application Mason's..... " "	Clothes. 60-ft. Jute.....per doz. \$0 95 60-ft. Sisal..... " 40 60-ft. Cotton..... " 15 60-ft. Braided Cot- ton " 25 LINING, STOVE. Bricks.....per crate 42c LOCKS. Barn Door. No. 60 Stearns.....per doz. \$11 00 No. 80 " 24 00 MACHINES. Riveting. Stearns No. 1....per doz. \$16 00 Tenoning. No. 50 Peace's Spoke, each \$16 00 MAIL BOXES. See Boxes. MALLETS. Carpenters'. Fibre Head, No. 2 per doz. \$16 50 " No. 3 " 19 50 " No. 4 " 28 50 Round Hickoryper doz. \$3 00— 5 00 Round Lig- numvitae.. " 6 25—10 50 Square Hickory " 3 50— 5 50 Square Lig- numvitae.. " 8 00—12 00 Tinners'. Hickoryper doz. \$2 25 MATS. Door. National Rigid.....50&10&5% Acme Steel Flexible.....50% Stove. No. 2.....per gro. Nets No. 1..... " " No. 1 Asbestos Toasters or wire-covered Stove Mats, with handle.....per doz. 1 10 No. 2 Asbestos Toasters, with ring.....per doz. 60 MATTOCKS. Plumbs25% MAULS. Iron, lbs..... 10 13 16 18 Per doz.....Prices on Application Wood Face, lb... 10 12 14 Per doz.....Prices on Application Wood Choppers'. Lake Superior & Oregon pat.40&5% MEASURES. Galvanized, doz.....Nets Japanned, doz.....Nets MILLS, COFFEE. Enterprise16 2-3% Parker50&5% Arcade40-10% MITRE BOXES. See Boxes. MOPS. Cotton, Star (Cut Ends). Pounds 12' 15' 18' 24'-3 on Per doz. \$4 50 5 65 6 75 9 00 NAILS. Cut Steel.....Prices on Application Cut Iron..... " " " Wire. Small Lots, Prices on Application Cement Coated. Small Lots, Prices on Application Horshoe. Ausable55&5% Capwell15% Perfect55&5% Putnam20&5% Star30&5% Picture. Brass Heads25% Brads50&5% Furniture.....List plus 15%	NAIL PULLERS. See Pullers. NAIL SETS. See Sets. NETTING, POULTRY. Galvanized before weaving...50% Galvanized after weaving...40% NIPPERS. End Cutting. Stubb's Pattern, Inches 5 6 Per dozen.....\$4 65 5 75 End and Diagonal Cutting. Swedish Side, Inches 5 6 Per dozen\$4 50 5 75 Hoof. Heller's40&10% V. & B., No. 52, each.....\$2 25 NOZZLES. Hose. Magicper doz. \$9 50 Diamond " 5 75 NUTS, HOT PRESSED. Square Tapped. \$1.35 off per 100 lbs. Hexagon Tapped. \$1.35 off per 100 lbs. OILERS. Chase Pattern. Brass and Copper.....10% Zinc20% Railroad Coppered23 1/2% Steel Copper plated50-10-5% OPENERS. Box. See Box Chisels. Can. Delmonicoper doz. \$1 30 Never Slip..... " 65 Orate. V. & B.....per doz. \$7 25-11 00 OUTFITS, COYBLING. Combinationper doz. \$16 00 Economy " 8 50 Family " 14 50 FAILS. Cream. 14-qt. without gauge, "per doz. \$9 50 18-qt. without gauge, "per doz. 11 00 20-qt., without gauge,per doz. 11 75 Sap. 10-qt., IC Tin.....per doz. \$4 00 12 " " " 5 50 Stock. Galv'd qts. 14 16 18 20 Per doz.\$9 75 10 75 12 75 14 50 Water. Galvanized qts. 10 12 14 Per doz.\$5 75 6 50 7 25 Wood. Cable, 3-Hoop.....per doz. Nets Cable, 3-Hoop..... " Nets Cedar, 3-Hoop, brass " Nets FANS. DrippingNet Fry. CommonNets Acme " Roasting. Faxon. Nos. 1 2 3 4 Per doz.....Nets Neverburn Savory, No. 209...per doz. \$8 40 PAPER. Building. Plainper 100 lbs. \$5 4 Tarred " Prices on Application Tarred Felt.. " " " Red Rosin, per ten.....\$75 00 Sand and Emery. No. 1, per ream, best grade \$5 40 No. 1, per ream, cheaper grade 4 85 Wrapping. Express100 lbs. Nets
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PARERS.	Fencing.	PUNCHES.	SAWS.
Apple.	Black BullAll Nets	Conductors.	Band.
Goodell'sper doz. \$10 80	Farmers' ChoiceAll Nets	No. 22per doz. \$3 00	E. C. Atkins & Co.
Turntable " 11 40	Russell'sAll Nets	Machineper lb. 25	Disston'sPrices on applic'n
White Mountain... " 8 40	Flat and Round Nose.	Saddlers'.	Buck.
Reading, No. 78... " 11 40	Bernard'sNew Prices	Common...per doz. 1 50 to 5 00	Disston'sPrices on applic'n
Potato.	LodiNew Prices	Revolving Spring.	Jackson'sNew nets
Goodsell's Saratoga, 10 1/4 in., doz..... 6 50	ParagonNew Prices	Stearns, No. 10...per doz. \$8 00	Butchers'.
Goodsell's Saratoga, 5 in., doz..... 5 50	Timers'.	No. 40... " 16 00	E. C. Atkins & Co.
	HollowNet List	No. 60... " 19 00	Disston'sPrices on applic'n
	Solideach, 10c	PUTTY.	Circular.
		Strictly pure...per 100 lbs. \$6 00	E. C. Atkins & Co.
			Disston'sPrices on applic'n
			Hiles'New nets
			Compass.
			E. C. Atkins & Co.
			Disston'sPrices on applic'n
			Disston'sPrices on applic'n
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			Pruning.
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			E. C. Atkins & Co.
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			Disston'sPrices on applic'n
			Wood.
			E. C. Atkins & Co.
			Disston'sPrices on applic'n
			SAW BUCKS—See Bucks.
			SAW SETS—See Sets.
			SAW TOOLS—See Tools.
			SAW FRAMES.
			Common, plain...per doz. \$1 50
			Common painted.. " 2 10
			SCALES.
			Counter.
			Pelouze40&10%
			SCISSORS.
			Star60%
			SCOOPS.
			Grain.
			1/2 bu "Hercules"...per doz. 3 70
			1-bu. "Hercules".. " 5 00
			SCRAPERS.
			Box.
			Triangular, No. 6 per doz. \$6 25
			Read.
			Cubic ft. 7 5 3
			With runners, ea. \$7 00 6 50 6 20
			SCREEN DOOR HINGES.
			Cast irongross, \$13 60
			Steel " 9 50
			SCREWS.
			Bench.
			Iron, ins. 1 1 1/4 1 1/2
			\$6 82 \$7 87 9 45 14 50
			Wood, white maple, per doz. 6 00
			Hand—Wood50%
			Hand Rail2
			Jack20%
			Lag or Coach—all sizes, gimlet pointed45-5%
			Saw—Centennial.
			Nos. 1 2 3 4
			Per doz.47c 55c 75c 90c
			Wood.
			F. H. Bright.....67 1/2-20%
			F. H. Blued.....65-20%
			F. H. Jap'd.....65-20%
			F. H. Brass.....57 1/2-20%
			R. H. Brass.....35 1/2-20%
			SCYTHES.
			Clipper, Grassper doz. \$13 00
			Honest Dutchman.. " 12

SETS.		SPRINKLERS, LAWN.		TAPES, MEASURING.		WARE.	
Nail.		Stearn's No. 1.....per doz. \$11.50		Asses' Skin.....List&40%		Glue Pots.	
Square head.....per doz. \$1 25		SQUARES.		Lufkin's Steel...Prices on applic'n		Tinned.....Add 15% to list	
Cup point, knurled " 1 15		Steel and Iron.....Nets new list		Lufkin's Metallic Prices on applic'n		Enameled.....30%	
Rivet.		(Add. for bluing, \$3.00 per doz. net)		THERMOMETERS.		WASH BOARDS—See Boards	
Farmers'.....per doz. \$2 10		Mitre.....		Tin Case.....per doz. 80c@ \$1 25		WASHERS.	
Tinners'.....25%		Try.....		Wood Back... " \$2 00@ 12 00		Standard O. G. cast iron, per	
Saw.		Try and Bevel.....		Glass..... " 12 00		lb.	
Aiken's Pattern.....per doz. \$6 50		Try and Miter.....		TIES.		Wrought steel in 5-lb. boxes,	
Dixson's Monarch " 7 20		Fox's.....per doz. \$6.00		Bale.		per lb.:	
Dixson's X-Cut... " 13 50		Winterbottom's.....10%		Single Loop, carload		In 3/16 1/4 5/16 3/8 1/2	
Leach's " " 80		SQUEEZERS, LEMON.		lots.....75&7%		1/8c 1/4c 1/2c 3/4c 1c	
Nash's Hand..... " 3 15		Common Wood.....per doz. \$0 70		Single Loop, less than		11 1/2c 11c 11c 11c	
Nash's X-Cut..... " 4 20		Porcelain Lined Wood " 1 25		car lots.....70&15%		WEDGES.	
Stillman's Lever... " 1 30		Boss, malleable iron " 1 20		TOOLS, SAW.		Ax.....per doz. Nets	
Stillman's X-Cut... " 2 50		Iron frame, porce'n		Dixson's Universal.....40%		Galling.....per lb. Nets	
Whiting Pattern, " 7 50		bowl..... " 1 90		TRAPS.		Saw.....per lb. 8 1/2	
Eccentric Anvil, " " " "		Iron frame, glass " 2 35		Game with Chains. Per doz.		WEANERS.	
Hand No. 395, " " " "		Little Giant tin'd " 4 00		Victor No. 1.....\$2 01		Calf.	
N. P. Morrill Pat- " " " "		Drum, japanned... " 3 60		Oneida Jump No. 1.....2 75		Fuller's, per doz..\$2 00 to \$2 50	
tern..... " 14 50		Drum, nickel plated " 4 50		Newhouse No. 1.....5 62		Tyler's Safety, per	
SHARPENERS, SKATE.		STAPLES.		Mouse and Rat Net per gross		doz.....1 85 to 2 40	
Diamond.....per doz. \$1 60		B'ind.		Out O'Sight Mouse.....\$ 8 00		Carroll's, per doz. 3 00 to 3 75	
Perfect.....1 20		Barbed.....per lb. 21@22c		" Rat.....15 00		Hoosier, per doz.. 3 50 to 4 00	
SHEARS.		Butter, Tub..... " 16@19c		" Mole.....100 00		Shaw Perfected.. 3 00 to 3 75	
Nickel Plated, Straight, 6".....\$12 90		Fence—		\$44 Pocket Gopher.....20 00		WEIGHTS.	
" " " " 7".....14 85		Polished.....per 100 lbs. \$5 45		Victor Mouse.....2 60		Hitching.....per lb. Nets	
" " " " 8".....16 30		Galvanized..... " 6 15		Hold Fast Mouse.....2 60		Sash—f.o.b. Chicago	
Japanned, Straight 6".....11 00		Netting.		Victor Rat.....11 00		Ton lots, per ton.....\$73 00	
" " " " 7".....12 40		Galvanized.....per 100 lbs. \$ 50		Hold Fast Rat.....11 00		Smaller lots, per ton.....75 00	
" " " " 8".....13 80		Wrought.		Official Rat.....13 50		WHEEL BARROWS.	
Tinners'—See Snips.		Wrought Staples, Hasps and		Wood Choker Mouse, 4		No. 4 Tubular Steel.....\$10 25	
SHEAVES, SLIDING DOOR.		Staples, Hasps, Hooks and		Holes.....11 00		Common Tray or Stave	
Common.		Staples, and Hooks and		TROWELS.		Tray..... " 5 00	
Inches.....3 4 5		Staples.....50&10%		Brick.		Angle leg, garden..... " 8 00	
Per set.....\$1 40 1 75 2 40		Extra heavy.....35%		Clover Leaf.....30%		WHEELS.	
Hatfield's.		STEELYARD.		Brade's.....15&5%		Carborundum.....50%	
Per set..\$1 80 2 10 2 75 25		Discount 25%.		Dixson's.....30%		Emery.....60%	
SHELLS—See Ammunition.		STONES.		Rose's.....Net		Well, Ins..... " 10 12	
SHELLERS, CORN.		Axe.		Plasterers'.		Per doz.....\$5 50 7 25 8 50	
Union.....per doz. \$6 75		Hindustan.....per lb. New Nets		Clover Leaf.....40%		12-in. heavy hoisting,	
SHIELDS		More Grit..... " "		Dixson's.....25%		per doz.....\$25 00	
pansion Bolt Shields.....60%		Washita..... " "		W. & MCP.....Net		WIRE.	
SHOES.		Emery.		TRUCKS.		Brass.	
Conductor.....60%		No. 126.....per doz. New Nets		Bag.....each \$3 75		In coils.....Nets	
SHOT—See Ammunition.		Oil—Mounted.		Warehouse or store.		In 1-lb. spools, new list.....Nets	
SHOVELS AND SPADES		Arkansas Hard		No. 1, each.....\$24 50		Broom—Tinned.....Nets	
Coal.		No. 7.....per doz. New Nets		No. 2, ".....22 50		Cable—Same Price as Barbed Wire.	
No. 2 Woodford.....per doz. \$5 50		Arkansas Soft.. " "		TUBS, WASH.		Copper.	
No. 132..... " 6 00		Washita No. " "		Standard, Wood. Ex.		In coils.....Nets	
Ames', new list..Discount, 12 1/2%		717..... " "		Nos.....3 2 1 large		1-lb. spools, new list.....Nets	
Per doz.		Oil—Unmounted.		Per doz \$9 50 11 25 12 75 15 50		Fence—Smooth. An' en'l Galv'd	
Neverbreak, hollow bck, blk, Nets		Arkansas Hard..per lb. New Nets		TWINE.		Nos. 6 to 9, less than	
National " " " "		Lily White..... " "		-ply Cotton Wrapping....\$.85		car, per 100 lbs. \$4 25 \$4 95	
Buckeye " " " "		Queer Creek..... " "		No.....1 2 3		Market.	
Mohawk " " " "		Washita..... " "		Per doz.....13 75 15 95 18 60		Market Quotations	
Bar Drain & Ditching		Scythe.		Galvanized.		Bright, full bds..... " "	
Iwan's Perfection.....\$30 00		Black Diamond..per gro. New Nets		No.....1 2 3		Bright, broken bds.... " "	
Railroad, etc.		Crescent..... " "		Per doz.....13 75 15 95 18 60		Coppered, full bds.... " "	
Black Diamond.....per doz. Net		Green Mountain " " "		India Hemp, 1/2-lb. balls.		Coppered, broken bds.. " "	
Crescent..... " " "		LaMolle..... " "		No. 4 1/2.....36c		Tinned, full bds..... " "	
Keystone..... " " "		Extra Quinne- " " "		No. 6.....35c		Tinned, broken bds.. " "	
Star..... " " "		bog..... " " "		No. 8.....33c		Picture—In coils..80% @ 80 & 10%	
Hollow Back..... " " "		Red End..... " " "		No. 13.....49c		In 5-lb. spools.....per lb.....26c	
Ames', new list, Discount 12 1/2%		STOPS, BENCH.		2-ply Jute, 1 1/2-lb balls, lb.....49c		WRENCHES.	
Snow.		No. 10 Morrill pat-		Seins.		Coes Steel Handle, 6-inch.. 30%	
Galvanized, with wood han-		tern.....per doz. \$11 00		Soft.....per lb.....Quotation		" " " " 8- " " 30%	
dle, No. 56.....\$1 45		No. 11 Stearns pat-		Med..... " " "		" " " " 10- " " 30%	
No. 55.....1 55		tern..... " 10 00		Hard..... " " "		" " " " 12- " " 30%	
Alaska Steel		No. 15 Smith pattern " 7 00		Staging, 1/4-lb. ball, size 21 " 24 " 27 "		Coes Knife-Handle, 6- " " 30%	
D-Handle.....per doz. \$3 50		STOPPERS, FLUE.		" " " " 24 " 27 "		" " " " 10- " " 30%	
Long Handle..... " 3 00		Common.....per doz. \$1 10		Bagging, 1/4-lb. ball, size " " "		" " " " 12- " " 30%	
SINKS.		Gem, flat, No. 3..... " 1 00		3-ply, "B" in hanks..... " " "		Coes All Patterns.....30%	
Cast Iron.		Gem, No. 1..... " 1 10		4- " "B" " " " " " " "		Bemis & Call's:	
Painted, 16x24.....Net		STOVE PIPE—See pipe.		3- " "A" " " " " " " "		Adjustable S, 10%; Adjustable 8	
Enameled, White, 16x24.... " "		STOVE BOARDS—See Boards.		3- " "Silver Finish, in hanks " " "		Pipe, 10%; Briggs' Pat-	
Wrought Steel.		STOVE POLISH—See Polish.		Fodder or Lath.		tern.....25%	
Painted, 16x24..... " "		STRAPS.		170 strand.....		Combination Bright.....10%	
SLIDGES—See Hammers.		Skate.....per doz. 85c&1 20		VISES.		Steel Handle Nut.....25%	
SNAPS, HARNESS		STRETCHERS.		No. 21, Hand.....\$5 00		Combination Black.....25&5%	
Covered Spring.....Add 3'		Carpet.		Oval Slide,		Merrick Pattern.....25&5%	
Judd's Pattern.....Add \$3 1-6% to list		Bullard's.....per doz. \$3 90		Inches 2 2 1/2 3 3 1/2 4 1/2		Knife Handle Pattern.	
SNATHS.		Excelsior..... " 5 25		Each \$2 70 \$3 20 \$3 60 \$4 20 \$5 75		No. 62, Screw Wrench, List	
Double Ring, Bush.....per doz. \$9 75		Malleable Iron..... " 70		No. 1, Genuine Wentworth,		plus	
Patent Loop, Bush..... " 10 00		Perfection..... " 6 30		Noiseless Saw...per doz. 15 00		No. 60, Steel Handle.	
Patent Loop, Grass.. " 8 75		King..... " 4 50		No. 2, Genuine Wentworth,		WRINGERS.	
SNIPS, TINNERS'		Wire.		Noiseless Saw...per doz. 20 00		No. 790, Guarantee, per doz. \$69 00	
Clover Leaf.....40&10%		O. S. Elwood, No. 1 per doz. Nets		No. 500, All Steel Folding		No. 770, Bicycle..... " 65 00	
National.....40&10%		O. S. Elwood, No. 2 " "		Saw.....per doz. 16 00		No. 110, Domestic..... " 59 00	
Star.....50%		SWIVELS.		Wires.		No. 110, Brighton..... " 59 00	
SOLDER—See Metals.		Malleable Iron.....per lb. \$0 10		No. 22, Pioneer..... " 51 00		No. 740, Bicycle..... " 54 00	

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Indianapolis, Ind.

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Berger Bros. Co.,
Philadelphia, Pa.
Burton Co., W. J.,
Detroit, Mich.
Clark-Smith Hdw. Co.,
Peoria, Ill.
Friedley-Voshardt Co.,
Chicago, Ill.
Hussey & Co., C. G.,
Pittsburgh, Pa.

**Polish—Stove, Metal, Enamel,
Iron**
Nickel Plate Stove Polish Co.,
Chicago, Ill.

Posts—Steel Fence
American Steel & Wire Co.,
Chicago, Ill.

Punches
Bertsch & Co.,
Cambridge City, Ind.
Niagara Machine & Tool Wks.,
Buffalo, N. Y.
Whitney Metal Tool Co.,
Rockford, Ill.
Whitney Mfg. Co., W. A.,
Rockford, Ill.

Ranges—Combination Gas & Coal
Quick Meal Stove Co.,
St. Louis, Mo.

Rasps Heller Bros. Co., Newark, N. J.	Sheets—Planished Sykes Co., The, Chicago, Ill.	Tinplate American Sheet & Tin Plate Co., Pittsburgh, Pa. Kniedler, Frederick J., Philadelphia, Pa.
Register Shields Hall-Neal Furnace Co., Indianapolis, Ind.	Sheets—Steel Ryerson & Sons, Joseph T., Chicago, Ill.	Tools—Carpenters Lufkin Rule Co., Saginaw, Mich.
Registers—Warm Air Hart & Cooley Co., New Britain, Conn. Henry Furnace & Fdy. Co., Cleveland, Ohio Manny Heating Supply Co., Chicago, Indiana Standard Furnace & Supply Co., Omaha, Neb. Stearns Register Co., Detroit, Mich. Tuttle & Bailey Mfg. Co., Chicago, Ill. Walworth Run Fdy. Co., Cleveland, Ohio	Skylights Burton Co., W. J., Detroit, Mich.	Tools—Sheet Metal Bertsch & Co., Cambridge City, Ind. Drels & Krump Mfg. Co., Chicago, Ill. Marshalltown Mfg. Co., Marshalltown, Iowa Niagara Machine & Tool Wks., Buffalo, N. Y. Ryerson & Son, Joseph T., Chicago, Ill. Viking Shear Co., Erie, Pa. Whitney Mfg. Co., W. A., Rockford, Ill. Whitney Metal Tool Co., Rockford, Ill.
Repairs—Furnace Central Stove & Furnace Repair Co., Chicago, Ill. Hessler Co., H. E., Syracuse, N. Y. Northwestern Stove Repair Co., Chicago, Ill.	Smoke Pipe Manny Heating Supply Co., Chicago, Indiana	Tools—Tinsmiths Bertsch & Co., Cambridge City, Ind. Drels & Krump Mfg. Co., Chicago, Ill. Howes Co., S. M., Boston, Mass. Kniedler, Frederick J., Philadelphia, Pa. Marshalltown Mfg. Co., Marshalltown, Iowa Niagara Machine & Tool Wks., Buffalo, N. Y. Ryerson & Son, Joseph T., Chicago, Ill. Viking Shear Co., Erie, Pa. Whitney Mfg. Co., W. A., Rockford, Ill. Whitney Metal Tool Co., Rockford, Ill.
Repairs—Stove & Furnace Central Stove & Furnace Repair Co., Chicago, Ill. Hessler Co., H. E., Syracuse, N. Y. Northwestern Stove Repair Co., Chicago, Ill.	Snips—Tinsmiths Niagara Machine & Tool Wks., Buffalo, N. Y.	Torches Ashton Mfg. Co., Newark, N. J. Bernz, Otto, Newark, N. J. Burgess Soldering Furnace Co., Columbus, Ohio Clayton & Lambert Mfg. Co., Detroit, Mich. Hones, Inc., Chas. A., Brooklyn, N. Y. Turner Brass Works, Sycamore, Ill.
Rivets—Stove Kirk-Latty Mfg. Co., Cleveland, Ohio	Solder—Aluminum Roesch, Geo. E., Aurora, Ill.	Transit Companies Cleveland & Buffalo Transit Co., Cleveland, Ohio
Rolls—Forming Bertsch & Co., Cambridge City, Ind. Niagara Machine & Tool Wks., Buffalo, N. Y.	Soldering—Furnaces Ashton Mfg. Co., Newark, N. J. Burgess Soldering Furnace Co., Columbus, Ohio Clayton & Lambert Mfg. Co., Detroit, Mich. Hones, Inc., Chas. A., Brooklyn, N. Y. Quick Meal Stove Co., St. Louis, Mo. Turner Brass Works, Sycamore, Ill.	Trimming—Stove Fanner Mfg. Co., Cleveland, Ohio
Roof—Flashing Hessler Co., H. E., Syracuse, N. Y.	Specialties—Hardware Caldwell Mfg. Co., Rochester, N. Y. Chatsworth Mfg. Co., Chatsworth, Ill. Heller Bros. Co., Newark, N. J. Hessler Co., H. E., Syracuse, N. Y. Hyfield Mfg. Co., New York, N. Y. Lufkin Rule Co., Saginaw, Mich.	Valves—Humidifiers Haynes, Kansas City, Mo.
Roofing—Iron and Steel American Sheet & Tin Plate Co., Pittsburgh, Pa. Brier Hill Steel Co., Youngstown, Ohio Burton Co., W. J., Detroit, Mich. Cortright Metal Roofing Co., Philadelphia, Pa. Friedley-Voshardt Co., Chicago, Ill. Milwaukee Corrugating Co., Milwaukee, Wis. Sykes Co., The, Chicago, Ill.	Stars—Hard Iron Cleaning Fanner Mfg. Co., Cleveland, Ohio	Ventilators Basman Co., Inc., A. M., Detroit, Mich. Berger Bros. Co., Philadelphia, Pa. Friedley-Voshardt Co., Chicago, Ill. Standard Ventilator Co., Lewisburg, Pa.
Rubbish Burners Hart & Cooley Co., New Britain, Conn.	Statuary Friedley-Voshardt Co., Chicago, Ill.	Ventilators—Ceiling Hart & Cooley Co., New Britain, Conn. Tuttle & Bailey Mfg. Co., Chicago, Ill.
Rules Lufkin Rule Co., Saginaw, Mich.	Stock Waterers Rock Island Mfg. Co., Rock Island, Ill.	Vises Rock Island Mfg. Co., Rock Island, Ill.
Sash Balances Caldwell Mfg. Co., Rochester, N. Y.	Stoves and Ranges Quick Meal Stove Co., St. Louis, Mo. Schill Bros. Co., Crestline, Ohio	Water Outlets Ajax Bracket and Outlet Co., Cleveland Heights, Ohio
Schools—Sheet Metal Pattern Drafting St. Louis Technical Institute, St. Louis, Mo.	Stoves—Gasoline and Kerosene Quick Meal Stove Co., St. Louis, Mo.	Wire American Steel & Wire Co., Chicago, Ill.
Screens—Perforated Metal Harrington & King Perforating Co., Chicago, Ill.	Stove Pipe Reducer Sullivan-Gelger Co., Indianapolis, Ind.	Wood Faces Marsh Lumber Co., Dover, Ohio
Sheets—Black and Galvanized American Sheet & Tin Plate Co., Pittsburgh, Pa. Brier Hill Steel Co., Youngstown, Ohio Kniedler, Frederick J., Philadelphia, Pa. Sykes Co., The, Chicago, Ill.	Tacks, Staples, Spikes American Steel & Wire Co., Chicago, Ill.	Wrenches Coes Wrench Co., Worcester, Mass.
Sheets—Blue Annealed Brier Hill Steel Co., Youngstown, Ohio	Tapes Lufkin Rule Co., Saginaw, Mich.	
	Tiles and Shingles—Metal Burton Co., W. J., Detroit, Mich. Cortright Metal Roofing Co., Philadelphia, Pa. Milwaukee Corrugating Co., Milwaukee, Wis.	
	Tin—Perforated Harrington & King Perforating Co., Chicago, Ill.	

ADVERTISING
is the power of an
idea multiplied.

Other powers
lose by expansion.
Steam is power
only when con-
fined. Electricity
radiated and dif-
fused becomes
nothing. Sound
dies with distance.
Great suns pale
into invisible
stars, and the
power of light
itself is lost in in-
finite space. But
the strange power
of advertising in-
creases by expan-
sion. Diffusion is
its life. It grows
by what it im-
parts.

The advertised
idea, to become a
power, must be genu-
ine, vital, and related
to the function of a
meritorious business;
and the means of its
furtherance must be
well chosen.

To choose well the
means for the further-
ance of your adver-
tised idea, in order
that it may become a
power, in order that
you may show its genu-
ineness as a vital
factor of your busi-
ness, is not hard.

A close perusal from
cover to cover of
this week's issue of
AMERICAN ARTISAN
AND
HARDWARE RECORD
620 So. Michigan Ave.
Chicago, Illinois
will disclose abundant
evidence of this fact.

WANTS AND SALES

For paid yearly subscribers, **AMERICAN ARTISAN AND HARDWARE RECORD** will insert under this head advertisements of not more than fifty words **WITHOUT CHARGE**. Employers wishing to secure employes, parties desiring to purchase or sell business, secure partners, or to exchange, etc., will find that these pages offer excellent opportunities to satisfy their wants. Clerks and tinsmiths looking for situations will find it to their advantage to use these columns. Those who respond to these announcements please mention that they "READ THE ADVERTISEMENT IN AMERICAN ARTISAN AND HARDWARE RECORD."

BUSINESS CHANCES

For Sale—Hardware and paint store. Established 26 years. A-1 location. Last year's sales \$21,000. Stock, fixtures and tools worth \$9,500. Rent with seven room flat \$50.00 per month. Reason for selling, going to Europe. Price, \$7,750. August Sietz, 2567 Fullerton Avenue, Chicago, Illinois. 14-3t

Wanted to Exchange—Farm of eighty acres, in Cumberland County, Illinois. Clear. For stock of hardware from five to seven thousand. Also three hundred acre farm in Jefferson County. It is well improved and practically all cultivated. Near towns on L. and N. R. R. Good opportunity for the right man. Address John W. Akins, Effingham, Illinois. 14-3t

For Sale—Tin shop and radiator repair shop. Doing good business. There is more work than can be taken care of. Only shop. Population 800; nine mills; county seat nearest town. Fine country to draw from. Good churches and schools. C. & O. Railroad. A bargain at \$575.00. Reason for selling, poor health. Earl Poorman, P. O. Lock Box 144, Fulton, Indiana. 16-3t

For Sale—Plumbing and heating business, automobiles, tractors and supplies with fine opening for hardware, as leading store is closing out. Fine new building on corner of two best streets in northern Illinois. Small city. This is a real opportunity. Write for details. Address B-43, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 16-3t

Wanted—A partner in a going furnace and sheet metal business, doing a large volume. You must be a mechanic and have at least \$2,000. A wonderful opportunity for the right man. The business is located in a prosperous central Nebraska town of 15,000. Address B-41, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 16-3t

Business Chance—Will sell or exchange for stock of hardware, 80 acre improved farm, bordered on east by fine lake, west by State Trunk highway. It is one-half mile to city limits; county seat. 60 acres under high cultivation, balance timber. 10 room modern house; two large barns; two large buildings for machinery, granary, hen house, blacksmith shop, ice house and slaughter house. Good orchard. Triple Hardware Company, Crandon, Wisconsin. 16-3t

Over Stock to Clean Out—Two White Lily De Lux cylinder electric washers, \$92.50; two Wayne Copper tub rocker electric washers (latest model), \$105.00; three Eureka Electric vacuum cleaners, \$29.50; one dozen 3/4" Glauber compression stops, \$15.00; one bbl. red barn paint, \$1.00 gallon; 1,000 lbs. No. 5 hardware wire at 5c; 500 lbs. 1/2" round iron at 5c; 5,000 ft. R. W.-Shareon and Allith Prouty square track, 19c; 100 dozen hangers for same—500 brackets; two 350 lb. Swedish cream separator, \$29.75; two 500 lb. Swedish Cream separator, \$35.00; one 6 H.P. Bates and Edmonds gas engine with magneto, \$133.00. Above all high grade goods, fully warranted. Vandervoort Hardware Company, Lansing, Michigan. 16-3t

BUSINESS CHANCES

Wanted to Buy—Small hardware store, in or near Chicago. No objection to machine shop in connection. Address B-44, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 16-3t

For Sale—Complete equipment of tin shop consisting of machinery, tools of all descriptions, benches, stakes, iron racks, etc. We are going to discontinue our shop. Can be had at a bargain. Wahler Brothers, 2553 North Halsted Street, Chicago, Illinois. 13-3t

HELP WANTED

Wanted — Tinner. Steady work to right men. C. E. Arnold, 823 Davis Street, Evanston, Illinois. 16-3t

Wanted—Tinner; for steady job; come at once. Address all replies to S. J. Pelz, Clinton, Wisconsin. 15-3t

Wanted—Tinner to do general run of job work. \$9 per day. Address M. S. Warren, 535 Fifth Street, Port Arthur Texas. 15-3t

Wanted—Four tinner and furnace man. One dollar per hour. Benton Sheet Metal and Furnace Works, 122 Water Street, Benton Harbor, Michigan. 14-3t

Wanted—A first-class sheet metal worker for general job work. \$1.00 per hour. Union shop. John B. Wallig, 307 Church Street, Kenosha, Wisconsin. 13-4t

Wanted—First-class sheet metal workers. Steady employment. \$8.00 per eight hour day. Open shop. W. J. Corbett Hardware Company, Tucson, Arizona. 13-4t

Wanted at Once—Man capable of doing plumbing and other work along the hardware line, in a small town. A good place for the right man. Write to Kingston and Desmond, Mukwonago, Wisconsin. 16-3t

Wanted—Good plumber and tinner, one who can do lead work and hot air furnace work. Steady job for competent man. Write stating wages expected and hours in first letter. Address Lock Box 156, Laurel, Nebraska. 16-3t

Wanted—A good combination tinner and plumber. Good wages and steady job for the right man. State experience and wages wanted in first letter. Winzer Brothers, Troy, Kansas. 14-3t

Wanted—Sheet metal workers on automobile bodies. Eight-hour day and good pay. Must be an average mechanic. Bakers Auto Body Works, 1302 Fostoria Street, Tulsa, Oklahoma. 14-3t

Wanted — First-class furnace men, capable of handling any kind of installation. Steady work. G. E. Blockie Heating Company, 122 West First Street, Oklahoma City, Oklahoma. 14-3t

Wanted—Two first-class sheet metal workers, two first-class pre-war sheet metal workers. \$1.25 per hour. Wire when you can come. H. H. Bain Sheet Metal Works, Shreveport, Louisiana. 13-4t

Wanted—At once, one first-class tinner and furnace man; steady work; open shop; state wages wanted in first letter. Address Mr. George W. Howell, 310 West 3rd Street, Greensburg, Pennsylvania. 15-3t

Wanted—Two or three first class sheet metal workers. Either men who have had experience on cornice, skylight or ventilating work. No dubs wanted, but men who can do as much as the other fellow. Two to three months' steady work. Write or wire before coming. Foster Metal Products Company, 217 South 4th Street, Springfield, Illinois. 14-3t

Wanted — Experienced hardware clerk in one of the largest cities in North Dakota. Permanent position assured to right man. Advise, giving experience, where employed last, age, nationality, whether married or single, salary expected and how soon position could be accepted. Barnes & Nuss Company, 118 South Third Street, Grand Forks, North Dakota. 16-3t

SITUATION WANTED

Situation Wanted—By first-class all around tinner and furnace man with a good reliable firm. Steady employment. Am married. Must be in town of from two to ten thousand. State wages in first letter. Address Henry Bailey, 35-57-11-Street, Rock Island, Illinois. 15-3t

Situation Wanted—By first-class sheet metal worker, who can also do pipe fitting and plumbing, wants situation as maintenance man in hotel or factory. Can furnish own tools, complete shop equipment included. Address V-2336 West Monroe Street, Chicago, Illinois. 16-3t

Situation Wanted — By middle-aged man. Am thoroughly familiar with the heating business in all its branches; also efficient in the plumbing line. Can do estimating and selling. Address B-39, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 14-3t

Situation Wanted—By good reliable tinner and furnace man. Can also do plumbing and lead work. Am a first class worker. Must be steady job at \$42.00 per week. Please address B-37, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 14-3t

Situation Wanted — By experienced hardware clerk and salesman. Have had eight years' experience. Am thirty years old, married, and capable of taking entire charge of store. Address B-40, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 15-3t

Situation Wanted—By plumber with state license. Can also do any kind of warm air heating and estimate jobs. Will erect windmills and do pump work if necessary. Have had sixteen years' experience. Kindly address B-38, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 14-3t

Situation Wanted—By first-class tinner, plumber and steam fitter. Can also do electric wiring and auto radiator repairing. Have had 13 years' experience. Write particulars, giving living conditions and wages. Kindly address B-42, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 16-3t

Situation Wanted—By first-class sheet metal worker. Have had ten years' experience in some of the largest heating and ventilating shops in the country. Can lay out patterns, make estimates and capable of taking charge of shop. Have also had plumbing experience. Address B-36, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 14-3t

Situation Wanted—As general foreman or superintendent of sheet metal shop. Am thoroughly experienced estimator in every branch of the business. Excellent executive abilities; first-class pattern cutter; exceptionally well qualified in the selling end of the business. 100% efficiency guaranteed. Please address B-45, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 16-3t

TINNERS' TOOLS

Wanted—To buy tinner's tools. Send list of what you have and price. G. A. Dawson, Rolfe, Iowa. 16-3t

For Sale—New Niagara large burring machine, \$15.00. George C. Crouch, 25 Market Square, Chattanooga, Tennessee. 14-3t

Wanted—To buy eight foot square shears, foot power. Must be in good condition. Kindly address B-35, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 13-4t

Wanted—A complete set of tinner's tools. State what you have and price in first letter. Address B-34, care of AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago, Illinois. 13-4t